NEW EQUIPMENT DIGEST

A Penton Publication

October, 1960

Volume 25 — Number 10

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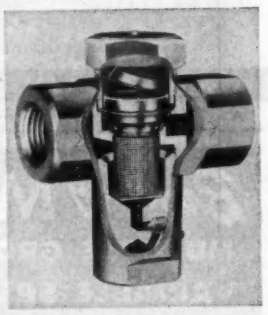
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 112

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

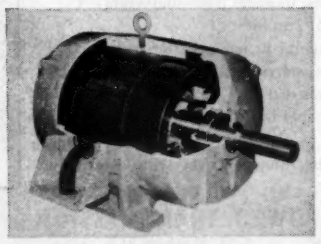
STEAM TRAP
combines strainer, blowdown valve



Designed for light condensate loads with steam pressures from 8 to 600 psi, the Yarway No. 130 impulse steam trap requires only two connections. A strainer and blowdown valve are combined with the trap in one body for compactness. The thermodynamic steam trap allows the valve disc to snap open to discharge condensate, but closes on steam. It operates against back pressures up to 50 per cent of the steam line pressure. One-half inch pipe connections are standard. Opened and closed by an Allen wrench, the blowdown valve is placed ahead of the strainer screen and trip, and has a threaded outlet for piping blowoff away from the area. • **Yarnall-Waring Co.**, Chestnut Hill, Philadelphia 18, Pa.

▲ For more details circle **NED-1 K** on enclosed inquiry slip ▲

ENCAPSULATED MOTORS
windings protected by epoxy

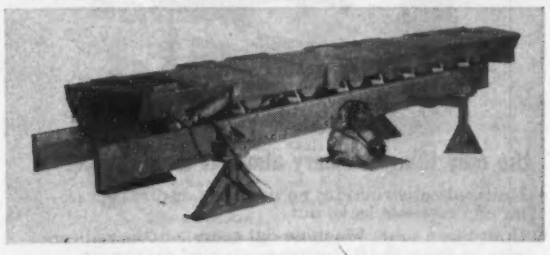


Howellsealed 1 to 125-hp, two and three-phase ac motors combine the high overload service features of standard motors with the protected windings of enclosed motors. Howellseal epoxy compound is applied under vacuum to surround each wire in slots and at coil ends. Motors can be used under conditions of excessive heat, moisture, acids, gases, salts, alkalis, caustics, fine abrasives, shock, or vibration. They are available in NEMA designs A, B, C, and D for 1, 2, 3, or 4-speed constant or variable torque operations. All standard voltages and frequencies are available. • **Howell Electric Motors Co.**, 16316 W. Seven Mile Rd., Detroit 35, Mich.

▲ For more details circle **NED-2 K** on enclosed inquiry slip ▲

VIBRATING CONVEYORS
decks are open or enclosed

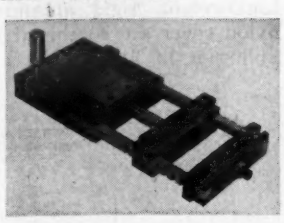
Conveying speed to suit the application can be selected on the TMV line of Twin Máss mechanical vibrating conveyors. The dynamically balanced units



with reactive type drive are quiet in operation. Their gentle conveying action causes no degradation of material. Open or enclosed decks are offered in standard sizes for drying or cooling operations. Conveyors have a V-belt drive from a standard electric motor or variable speed control. Widths from 12 to 48 in. and up to 30-ft lengths are made with capacities up to 200 tons per hour. • **Jeffrey Mfg. Co.**, 852-99 N. Fourth St., Columbus 16, Ohio.

▲ For more details circle **NED-3 K** on enclosed inquiry slip ▲

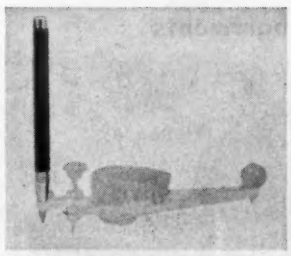
PUNCH PRESS FEEDS
accurate to within ±0.001 in.



Accuracy of two Rapid-Air punch press feeds is held within ±0.001 in. without using pilots. Designed for high speed feeding, easy setup, and positive stock clamping, these air-operated feeds are mounted on die-set or bolster plate and will feed automatically from either side, front, or back. Model D-5 will feed stock up to 4 in. wide with a 0 to 5-in. stroke, whereas Model F-6 feeds 6-in. wide stock with a 0 to 6-in. stroke. Only one air connection is needed. • **Mechanical Tool & Engineering Co.**, 2323 23rd Ave., Rockford, Ill.

▲ For more details circle **NED-4 K** on enclosed inquiry slip ▲

LETTERING PENCIL
makes uniform lines on entire job



Uniformity of line width is assured the user of the Leroy 020 lettering pencil by a very thin lead with the diameter of a 0.020-in. pencil point. The lead can be advanced by turning the pencil while it is in the scriber, permitting uninterrupted lettering without need for repointing. Pencil is supplied in a plastic case containing a lead dispenser with 24 refills. Dispensers are also available separately. • **Keuffel & Esser Co.**, Third & Adams Streets, Hoboken, N. J.

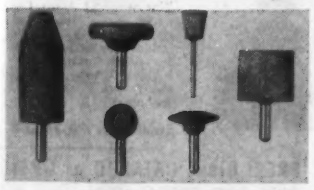
▲ For more details circle **NED-5 K** on enclosed inquiry slip ▲

BAND SAW GUIDES
handle 1/8 to 3/4-in. wide blades

Sealed ball bearing support and thrust rollers are featured by these miniature band saw guides designed for use on 14, 16, 18, and 20-in. machines, or for light and medium work on larger machines. The Guidall, Jr. guides are readily adjusted to handle any blade from 1/8 to 3/4 in. wide at speeds up to 8000 fpm and thrust loads up to 50 lb. Models are available with mounting brackets for any standard band saw machine. • **Carter Products Co.**, Helmer Bldg., Grand Rapids 2, Mich.

▲ For more details circle **NED-6 K** on enclosed inquiry slip ▲

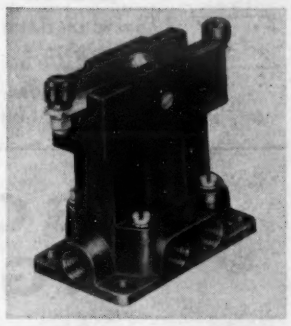
MOUNTED ABRASIVE WHEELS
ordering system is simplified



Six basic shapes in 30 sizes of SS Series (Special Shapes) mounted abrasive wheels cover 96 per cent of all portable grinding needs. With the simplified line, delivery is speeded by selecting one or more shapes, indicating size and specification, then ordering. Shipment is from stock. Variations of the wheels can be formed with conventional dressing stone. • **Chicago Wheel & Mfg. Co.**, 1101 W. Monroe St., Chicago 7, Ill.

▲ For more details circle **NED-7 K** on enclosed inquiry slip ▲

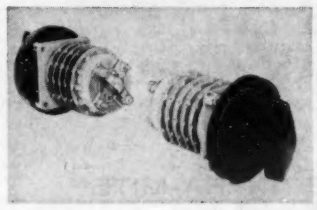
AIR & HYDRAULIC VALVE
easily removed for maintenance



Compact poppet-type directional valve for air and hydraulic service has a removable pipe bracket which allows removal for maintenance without disturbing pipe connections. Group mountings can also be made, without pipe bracket, to a common manifold. Three and four-way models can be changed in operation by rearranging their internal parts. Manual and mechanical operators may be reset, overridden, or safety interlocked by dual air piloting. Made essentially of die cast zinc, valve is rated for 250 psi maximum air or hydraulic pressure and a −40 to 160° F range. Both 1/8 and 1/4-in. tapped pipe brackets are available. Prices start at $18. • **Westinghouse Air Brake Co.**, Industrial Products Div., Box 36, Wilmerding, Pa.

▲ For more details circle **NED-8 K** on enclosed inquiry slip ▲

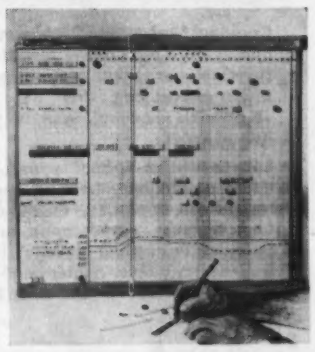
MULTIPOLE SWITCH
rotary type with 1 to 25 sections



Single knob control of as many as 75 poles is possible with the Type JM rotary multipole switch. It is offered with from 1 to 25 sections, and with various contact arrangements for tap, transfer, and selector service. Detent action gives positioning at 30-degree intervals. Switching action, which may be shorting or nonshorting, is contained within the insulated enclosure. Interrupting rating is 5 amp at 125 v ac. Switch mounts with four screws on a 3 1/4-in. bolt circle. It is 2 13/16 in. square and extends 2 13/16 in. to 12 3/8 in. behind the mounting panel for 1 and 25-section units. • **Electro Switch Corp.**, King Avenue, Weymouth 88, Mass.

▲ For more details circle **NED-9 K** on enclosed inquiry slip ▲

VISUAL CONTROL BOARD
magnetic indicators 'move with time'



Magnetic version of the Rol-a-chart visual control board utilizes magnetic indicators which are placed on the rotating plastic sleeve. They move with the sleeve as it is turned to bring deadlines closer to the "today" line. Indicators, offered in six colors and several sizes and shapes, have a write-on surface for marking pencil. Index strips are also magnetic. Entries can also be made directly on the plastic-laminated index and the plastic sleeve, adapting the board for many different types of scheduling. Steel board is equipped with wall hangers, folding easel, carrying handle, and red and black marking pencils. • **Conley, Baltzer & Steward**, Rol-a-chart Div., 494 Jefferson St., San Francisco 9, Calif.

▲ For more details circle **NED-10 K** on enclosed inquiry slip ▲

STANDARD ZAGAR Gearless DRILL HEADS
DRILL ANY NUMBER OF HOLES IN ANY PATTERN IN ANY MATERIAL ON ALL CENTERS

Write for Manual N-10

Drill a maximum number of holes in one pass—in any material. Holes can be as close as twice drill diameter. Zagar gearless drillheads are built as a complete unit or may be adapted to any standard drill press. Send us your part drawing and we will submit our quotation.

23880 LAKELAND BLVD. • CLEVELAND 23, OHIO
Zagar INCORPORATED
USE MORE SPINDLES TO DO MORE WORK

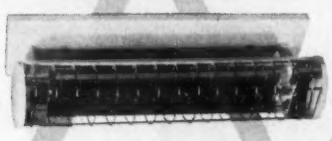
▲ For more details circle NED-11 K on enclosed inquiry slip ▲

GO BIG

A

RADIANT HEATERS FOR SPOT HEATING
2 BROAD LINES TO TACKLE ANY CHORE:

APEXTRO'S "INFRA-MITE"



APEXTRO'S "INFRA-TUBE"

Compact "Infra-Mite," decorative fixtures using high energy infra-red emitter, are ideal for bathrooms, sun porches, nurseries, swimming pools, bus stations, photo processing, drive-ins, etc. (3 fixture sizes, 10 models—ceiling, wall or portable wall-hanging mount types).

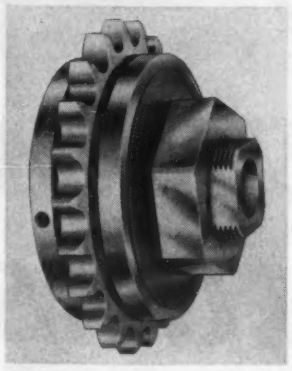
Larger "Infra-Tube," zone-controlled heaters are basic or auxiliary heating system problem-solvers for offices, factories, machine shops, warehouses, open terraces, grandstands, drive-ins, etc. (28 stock sizes, wall or ceiling mounts).
Both safely deliver higher heat—faster. Both carry an unprecedented one-year lamp life warranty.

A *See an Apextro agent, or contact*

APEXTRO PRODUCTS CO.
1821 N. EASTLAKE AVE. - LOS ANGELES 31, CALIF.

▲ For more details circle NED-12 K on enclosed inquiry slip ▲

OVERLOAD SAFETY DEVICE
for conveyors, presses, machinery

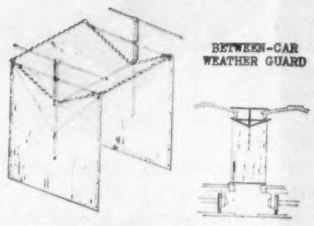


Overloads are prevented in conveyors, presses, machinery, construction equipment, and other equipment with power transmissions when this overload safety device is used. Made of carbon steel and having needle bearings, it is permanently lubricated. Its clutch facing resists moisture expansion and allows constant torque. Easily installed unit has a torque adjusting nut. • **Dalton Gear Co.,** 1750 Hennepin Ave., Minneapolis, Minn.

▲ For more details circle NED-13 K on enclosed inquiry slip ▲

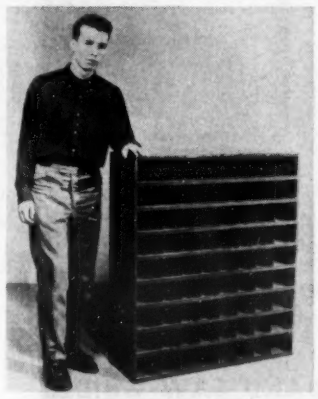
WEATHER PROTECTOR
fits between railroad cars

Lightweight, rigid aluminum frame, and Fro-Prene nylon cover are combined in the Weather Guard, enabling it to fit between adjacent wood or steel box cars. An inverted V-top frame provides overhead protection and controls dripping from car roofs. Water drainage is to either side, away from car doors. Unit is set in position from the car floor and locked in position without tools. Protective side curtains are adjusted for varying car door heights, fastening inside the cars for draft-free, weather-tight closure. • **Frommelt Industries, Inc.,** Box 419, Dubuque, Iowa.



▲ For more details circle NED-14 K on enclosed inquiry slip ▲

BOLT BIN
contains 72 compartments



Various types of fasteners, capscrews, nuts, washers, and other small parts can be stored in this 72-compartment bolt bin. Of welded steel construction, it measures 12 x 36 x 42 in. Each compartment is 12 x 4½ x 4½ in. Standard color is green, but other baked enamel colors are available on special order. • **Durham Mfg. Co.,** 210 Main St., Durham, Conn.

▲ For more details circle NED-15 K on enclosed inquiry slip ▲

UNUSUAL BARGAINS

Order by Stock No.—Check, M.O. or Open Account—Money-back Guarantee
Minimum order on open account $5.00

MEASURING MICROSCOPE
DIRECT READING—ERECT IMAGE

Worth $60 to $80—but use of American-made war surplus optics results in unusual bargain. Reticle has scale .4" long with .005" gradations for 10 power use; and scale .2" long with .0025" gradations for 20 power use. Unlimited applications for direct measuring. Image is erect and correct right to left, optics are color corrected, ample eye relief. Microscope is 6" long, base 4½" x 4½"—can be raised from 8½" to 13".
Stock No. 70,266-AE .....$29.95 Postpaid

GIANT MAGNET! TERRIFIC BARGAIN!

War surplus—Alnico V-type! Horseshoe shape. Tremendous lifting power. 15¾ lb. size. Approximately 5,000-6,000 Gauss rating. Will lift over 250 lbs. Dimensions: A—5-3/16"; B—3¾"; C—5½"; D—2½"; E—2⅛"; F—4⅛".
Stock No. 85,088-AE .....$22.50 F.O.B. Shipping weight 22 lbs.
Order by Stock No. Send Check or M.O.—or order on open account.

ASTRO-COMPASS AND TRANSIT

War surplus! Astro Compass alone cost Govt. $75. We have added a Sighting Level to improve versatility. Hundreds of uses in carpentry, brick laying, foundation work, grading, irrigation or drainage. Much below cost of ordinary surveying instruments. Ideal for do-it-yourselfers. 10¼" high, 6" long, 4" wide. Adjustable leveling platform—2 spirit levels for aligning—also spirit level in sighting attachment. A tremendous bargain.
Stock No. 70,267-AE ..... $19.95 postpaid

FREE! Giant CATALOG of OPTICAL BUYS!

OVER 1,000 OPTICAL ITEMS . . . Many on-the-job helps . . . quality control aids! 128 pages — hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists, math learning aids. Write for FREE Catalog AE

EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-16 K on enclosed inquiry slip ▲

IT'S NEW!

CUT COUNTING HOURS IN HALF -

The MARK*COUNTER brings you an easier, faster way to count materials. Each time you touch the MARK*COUNTER pen to any item it leaves a small spot of ink and the counter clicks once. Counted materials are identified clearly and the counter dial shows an accurate total. MARK*COUNTERS are useful in stores, receiving, shipping and inspection on bar-stock, boxes, castings, lumber, assemblies, etc. Five color pens furnished with each MARK* COUNTER kit; complete for only $28.50 each.

FOR FREE LITERATURE WRITE TO
St. Clair VAN D. MARK Michigan

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Browning MVP
MULTIPLE GROOVE VARIABLE SPEED DRIVES

WIDE APPLICATION AT LOW COST

For reliable and convenient speed variations in drives up to 125 hp, investigate Browning's new MVP line.

- ★ 360° adjustment; easy to unlock and lock
- ★ patented locking ring assembly; will not work loose
- ★ concentric grooves, uniform pitch diameters
- ★ ground barrels for precision fit
- ★ precision bored center flanges; chatter-free
- ★ adjusting rings of *unbreakable malleable*
- ★ infinite speed adjustment
- ★ Browning's split taper bushing; also fixed bore types

Ask your Browning Distributor for new catalog MVP-101. Or write **Browning Manufacturing Company, Maysville, Kentucky.**

Browning POWER TRANSMISSION EQUIPMENT

FOR PROMPT DEPENDABLE SERVICE CONSULT YOUR BROWNING DISTRIBUTOR

▲ For more details circle NED-18 K on enclosed inquiry slip ▲

New MADDEN *Metriflow* Metering Pump

the only thing ordinary about it is the price!

- Unitized construction; no moisture or dirt gets in—no oil or grease leaks out.
- Built like a tank. Machine-cut gears; outboard bearings on drive shaft; piston-supported diaphragm.
- Ideal for slurries and corrosive liquids; solution heads available of stainless steel, Hastelloy, etc.
- Duplex models double capacity from one motor, by alternating power strokes.
- 4 standard sizes—0 to 10, 18, 36 or 54 GPH; pressures to 300 psi. Adjust capacity while operating.

THE MADDEN CORPORATION
1345 Jarvis Ave., Chicago, Ill.
Write For Full Information

▲ For more details circle NED-19 K on enclosed inquiry slip ▲

HISEY

Low cost and high quality continue to typify the Hisey line as they have for fifty years. Hisey is the veteran company of grinder, buffer and polisher manufacturers . . . making both general purpose and heavy duty lines. Write today for full information.

SO MUCH QUALITY FOR SO LITTLE COST

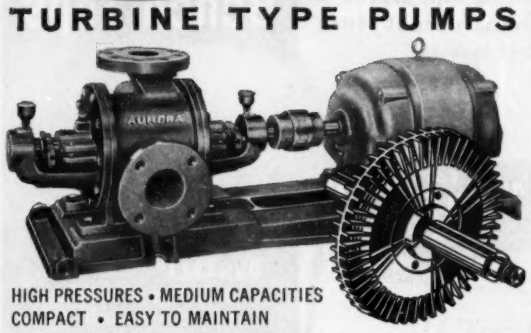
OF CINCINNATI

The Hisey Line is THE COMPLETE LINE of Bench, Pedestal, Snagging, Wet and Dry, Disc and Drill Grinders . . . and famous Hisey Dust Collectors.

Hisey
THE HISEY-WOLF MACHINE CO.
374 Mt. Hope Ave.
Cincinnati 4, Ohio

▲ For more details circle NED-20 K on enclosed inquiry slip ▲

HIGH FLEXIBILITY AT LOW COST with AURORA APCO® TURBINE TYPE PUMPS



HIGH PRESSURES • MEDIUM CAPACITIES
COMPACT • EASY TO MAINTAIN

Broad flexibility of application provided by steep head curves . . . variation throughout the curve with minimum change of horsepower requirement . . . accommodation of a wide range of liquids with viscosity to 600 S.S.U. . . . easy field conversion from right to left-hand operation . . . and capacity increased or decreased merely by changing channel rings and impeller.

Pressures to 400 PSI. Capacities to 150 GPM. Temperatures to 275° F. (with water jacketing to 700° F.).

WRITE FOR BULLETIN S-111

AURORA Always PUMPS

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY
1180 LOUCKS • AURORA, ILLINOIS
LOCAL DISTRIBUTOR IS LISTED IN THE YELLOW PAGES OF YOUR PHONE BOOK

▲ For more details circle NED-21 K on enclosed inquiry slip ▲

FF ROLLER GUNS
for automatic packaging units

INSURE BETTER BOND
CUT GLUING COSTS 83%

STRIPING ACTION

Exclusive, fascinating stripe-action guns lay down multiple beads of adhesive, use up to 83% less glue, yet insure faster, better bonding regardless of machine speed. Ideal for carton sealing, box and tray assembling, package gluing, etc. FF equipment also eliminates "open" glue pots which minimizes clean-up and maintenance time. Quick-change roller tips, in widths to 4½", permits guns to be reset in seconds for different adhesive patterns. Air pressure adjustment for ribbon-coating.

QUICK-CHANGE TIPS

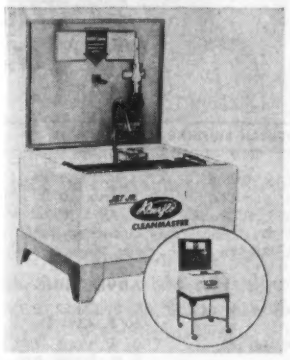
In addition to roller guns, the FF line includes over 400 units to meet a wide range of industrial gluing needs. All models designed for both automatic and manual use. Fully patented and guaranteed. Easy to install on existing equipment. Our catalog should interest you . . . send for one today.

RIBBON COATING

JOHN P. FOX COMPANY, INC.
FF 1107 S. Mountain
Monrovia, California

▲ For more details circle NED-22 K on enclosed inquiry slip ▲

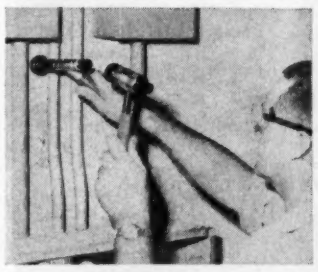
PARTS CLEANER
bench model has 3 cleaning actions



Automatic Model 25 Cleanmaster Jet, Jr. parts cleaner is a self-contained, 10-gal-tank bench unit which utilizes three cleaning actions. These consist of soaking and multijet turbulence in the tank and automatic continuous filtered flow through flexible hose for precision cleaning on the upper shelf. Both areas can be used at the same time. Cleaner has a throw-away screw-in cartridge filter for the solvent and a fusible link in the cover to minimize fire hazard. • **Kleer-Flo Co.**, 250 W. 57th St., New York 19, N. Y.

▲ For more details circle NED-23 K on enclosed inquiry slip ▲

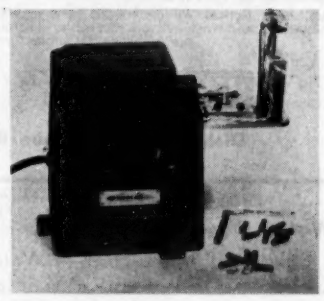
HAMMER-IN FASTENING TOOL
sets fasteners in steel or concrete



Side handle of the improved Shure-Set hammer-in fastening tool keeps the user's hand away from the area of impact. It also facilitates setting of fasteners in hard-to-reach places. Fasteners can be set in concrete or steel with only a few hammer blows on the standard or heavy duty model tools. • **Olin Mathieson Chemical Corp.**, Winchester-Western Div., Ramset Fastening System, Winchester Avenue, New Haven 11, Conn.

▲ For more details circle NED-24 K on enclosed inquiry slip ▲

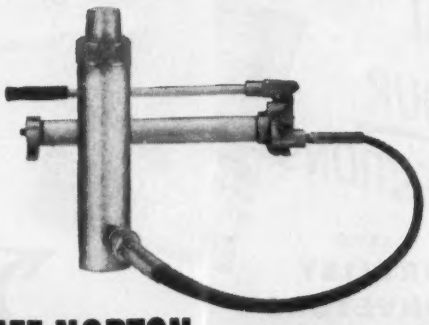
C-RING ASSEMBLY PRESS
feeds and clamps prestacked rings



Any size of prestacked retaining C-ring is automatically clamped on shafts with uniform pressure by this assembly press. Designed for applying rings to ground potentiometer shafts, it is operated when the shaft is inserted from below to a preset level. A foot switch is an optional accessory. The size and style of C-ring, shaft diameter from 1/10 to ½ in., and length of shaft to recessed slot from 0.020 to 3 in. can be specified. Press operates without bolting down on 115 v, 60 cycles ac. • **Altomac Corp.**, 863 Washington St., Canton, Mass.

▲ For more details circle NED-25 K on enclosed inquiry slip ▲

VERSATILE POWER PACKAGE



DUFF-NORTON RAM-PAC®
HYDRAULIC RAMS AND PUMPS

The Duff-Norton Ram-Pac line provides a versatile source of power to apply from 10 to 100 tons of force in any direction—with little effort.

The twelve rams may be used with the hand or power pumps as portable sources of power and for permanent installation in hydraulic jigs, fixtures and presses.

The Ram-Pac line has five pumps—two hand, one air-hydraulic, one electric and one gasoline. Attachment units and accessories are available. For details ask your distributor or write for Bulletin AD-90—N.

DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-26 K on enclosed inquiry slip ▲

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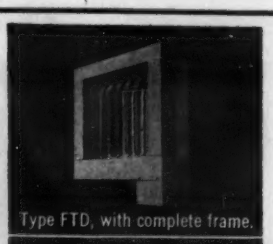

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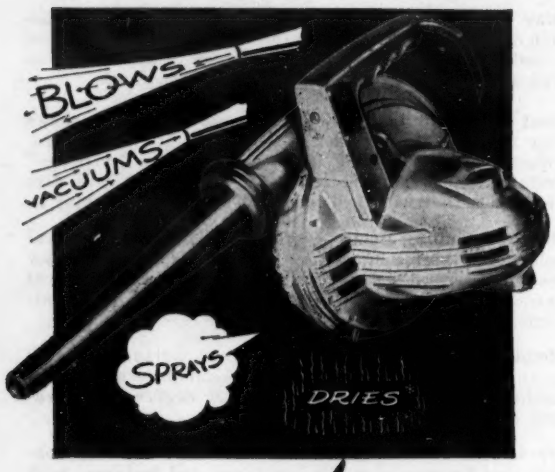

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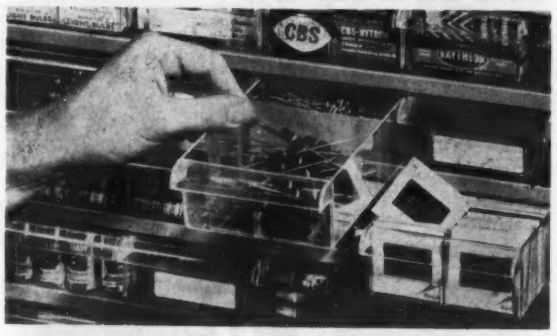

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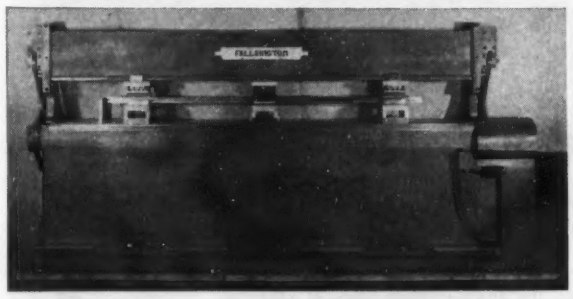

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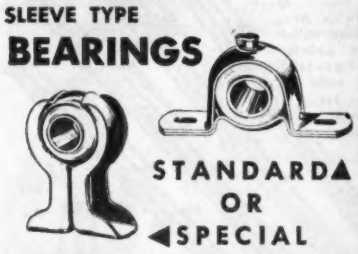

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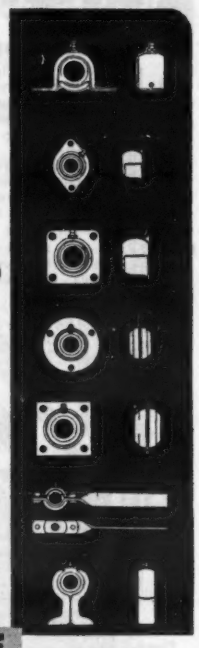

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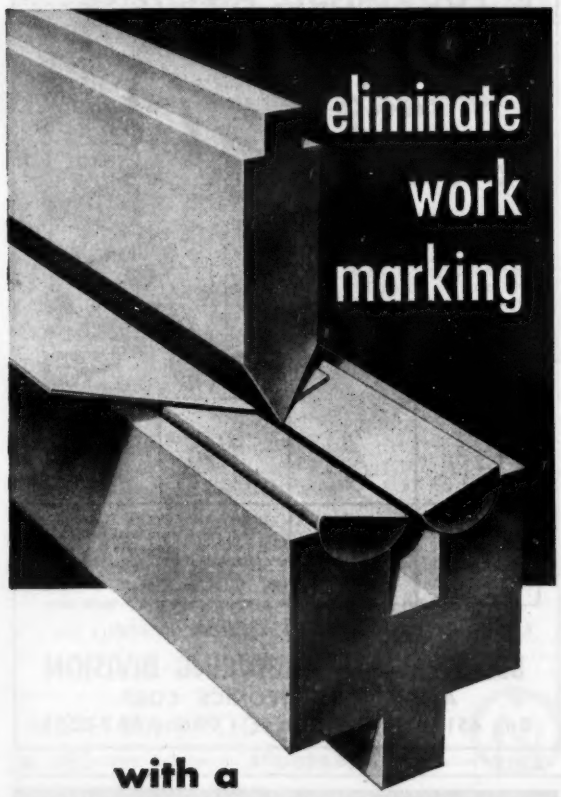

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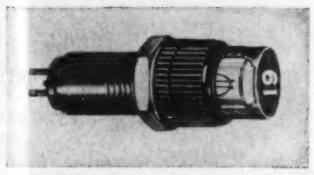
SMALL INDICATOR LIGHTS
lens cap hot-stamped with legend



Data Cap ultra-miniature indicator light is assembled with a clear lamp cartridge and colored cylindrical lens cap on which a legend is hot-stamped. Should cartridge burn out, it is replaceable from front of panel. Lens is rotatable for alignment of legend after assembly. Offered in seven colors, lens accommodates up to three hot-stamped digits. Cartridges embody T-1¾ incandescent lamps rated 1.35 to 28 v. Neon cartridges are optional. Data Cap lights measure 1⅝ in. long and mount in ¾-in. clearance hole. • **Dialight Corp.**, 60 Stewart Ave., Brooklyn 37, N. Y.

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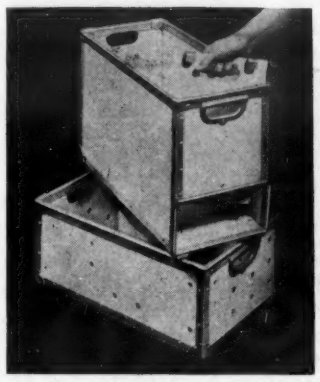
with glass-reinforced fiber walls



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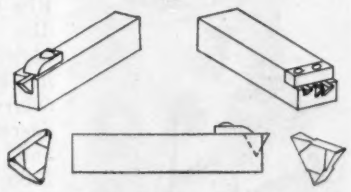
uses self-locking inserts

Throw-away type triangular inserts with three cutting edges are used in the Groovall grooving tool. Several of the self-locating, self-locking inserts are used in the versatile holders, in any relationship and size, for multiple grooving. Cutting pressures lock the inserts firmly in the holder, and they will not creep or shift in use, even if clamps loosen. A minimum of set-up and adjustment time is required, and regrinding time is eliminated. • **U. S. Tool & Cutter Co.**, 28975 Orchard Lake Rd., Franklin, Mich.



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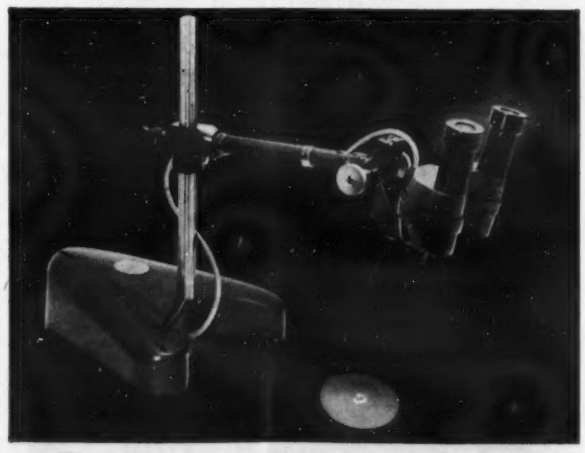

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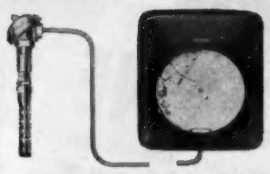

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with new electro-permanent magnetic

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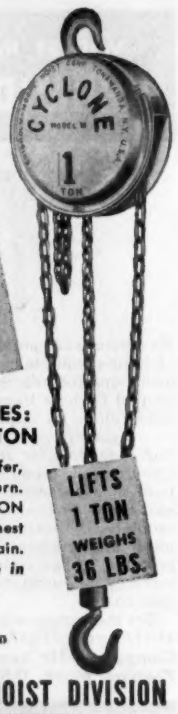

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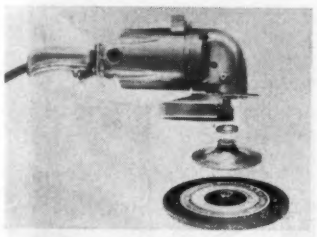
GRINDING WHEEL has improved mounting arrangement



Fast mounting and dismounting is feature of improved Type 27 raised - hub grinding wheel. It has a redesigned adaptor flange and a threaded steel insert molded as an integral part of the wheel. Wheel always mounts at a true 90 degrees to spindle. To install wheel, operator merely slips adaptor flange onto spindle nose and spins the wheel on. Mounting is available with wheels of the same gradings as conventional Radiac 27 raised-hub wheels. Seven and 9-in. diameters are standard, and thicknesses are ⅛, 3/16, ¼, and ⅜ in. Arbor size is ⅝ in.-11. ● **A. P. de Sanno & Son, Inc.**, 422 Wheatland St., Phoenixville, Pa.

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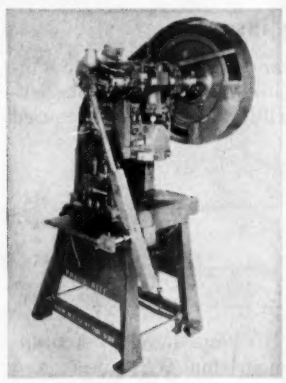
AUTOMATIC PRESS FEED used on open-back inclinable model



Stock advance of up to 5.8 in. is possible with the rack - and - pinion roll feed mounted on this improved Model 20 Press-Rite OBI press. It handles up to 4½-in. wide material as thick as 5/32 in. Features include an overrunning clutch, air-operated clamping device, and ease of adjustment. Press has an automatic brake, sliding key clutch with replaceable inserts, nonrepeat single-stroke attachment, and positive lubrication. ● **Havir Mfg. Co.**, 444 N. Cleveland, St. Paul 4, Minn.

▲ For more details circle NED-49 K on enclosed inquiry slip ▲

FOR SAFETY ON THE JOB...FOR SURE

IPCO VINYLITE APRONS and sleeves assure needed protection against acids, oils, caustics and solvents. Light, flexible and comfortable to wear, aprons are fitted with electronically welded grommets of heavy gauge vinylite . . . tie cords are of same material. Made in medium weight for general body protection, and heavy weight for jobs where subject to harder mechanical wear. Electronically seam-welded sleeves are medium weight, 14" long and elasticized top and bottom. Vinylite aprons also available in "drip pocket" style.

COMPLETE LINE OF WELDERS' APRONS IN ASBESTOS, CHROME LEATHER, FIREPROOFED DUCK, ALUMINIZED ASBESTOS . . . NEOPRENE AND SYNTHETIC RUBBER COATED BIBS AND APRONS . . . PROTECTIVE CLOTHING FOR EVERY JOB HAZARD.

IPCO Reg. U.S. Pat. Off. 9-1012A

SAFETY PRODUCTS
INDUSTRIAL PRODUCTS COMPANY
2807 N. Fourth Street • Philadelphia 33, Pennsylvania

▲ For more details circle NED-50 K on enclosed inquiry slip ▲

LEIGH Pocket Tools

Scribers Both "fixed point" (left) and "interchangeable-reversible-point" types (right) come with 3/64" x approx. 1/2" carbide rods, inserted and brazed in points. Can be re-ground again and again. Give years of service. Accurately machined collet-chucks hold points securely. Points reverse for safe carrying in pocket. Mark any material.

(Above) Fixed Point Scribers—for bench or fixture use.

Magnets No. 434 (magnet only) and No. 634 (magnet and scriber) have extra power, permanent magnets. Easily remove chips from blind holes, threads, etc.; recover, gather, and hold small parts — a daily need.

Points (Left) Extra points for use in collet-chuck type LEIGH Scribers come in 6 types "Straight" "90° angle" and "45° angle" points with carbide insert rods. And, "Straight" and "90° angle" and "45° angle" of high speed steel.

If your distributor can't supply LEIGH Pocket Tools, order direct.

SPRING SPECIALTY CO.
33 5th Ave. • Maywood, Ill.

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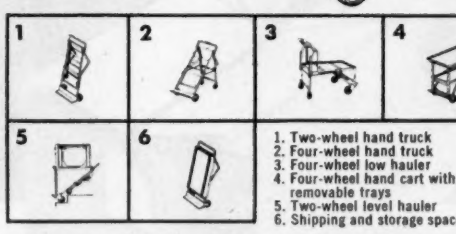
IF YOU HANDLE ANYTHING... YOU NEED A

Handy •Dolly

The versatile Handy Dolly converts easily, quickly to solve materials handling and mobil support needs. Constructed of quality steel . . . conservatively rated for 350 lb. loads . . . semi-nesting . . . it's the ONE dolly that does the jobs of SIX . . .

Model 200 B
$59.50 complete
Suggested Retail



1. Two-wheel hand truck
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3. Four-wheel low hauler
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6. Shipping and storage space-saver

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BELLOWS MANUFACTURING DIVISION
ATLANTIS ELECTRONICS CORP.
Box 451 • Garland, Texas • Phone BR 8-3551

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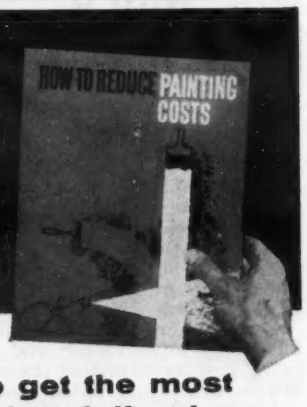
FREE PAINT FACTS



Learn how to get the most for your painting dollars!

A concise, easy-to-read summary of economical paint purchasing and application techniques for industrial, commercial and institutional users. File-size booklet contains many helpful hints on what to look for when comparing paint costs plus useful information on paint characteristics and long-range painting economies. Send for your free copy now. Write to Barreled Sunlight Paint Company, 130-J Georgia Avenue, Providence 5, R. I.

Barreled Sunlight
ENGINEERED *Paints*
FOR A BETTER LOOKING, LONGER LASTING PAINT JOB AT LOWER COST

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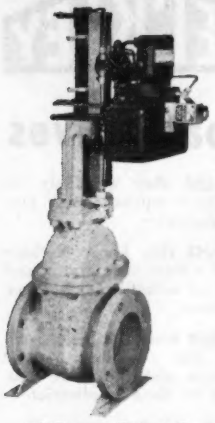
MINIATURIZED HYDRAULIC ACTUATION



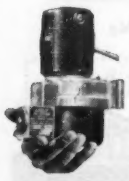
for any type or size of valve!

NOW—a complete valve actuator so small it requires less room than a conventional hand wheel . . . so powerful it provides smooth, positive action on any valve.

The Oil-Dyne valve actuator provides two separate pressures, a higher opening pressure and a lower closing pressure, to protect valve components. Any combination of pressures from 50 to a peak of 5000 psi can be arranged.

For indoor or outdoor service, direct or remote control, Oil-Dyne valve actuators can be equipped with any type of safety device and signal, explosion-proof features, and a hand pump for emergency manual control.

Oil-Dyne will install actuators on any valve furnished by the customer directly or through any valve manufacturer, or will furnish complete actuators, including mounting devices, to customers wishing to make their own installation. For complete information, write for Catalog VA-10.



PIONEERING MINIATURIZED HYDRAULIC ACTUATION

OIL-DYNE INC.

2115X West Marquette Road • Chicago 36, Ill.

PUMPS • CYLINDERS • VALVES
PRESSURE SWITCHES • ACCESSORIES

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Safest

featuring new **360° Swivel**

J & J

Safety Lift Hooks

* Safety Approved by Auto Manufacturers
* Fail-Proof, 100% tested above rated capacities
* Maneuverable, free turning swivel
* Permanent Assembly, always intact, no low-strength substitutes.

Prices f.o.b. Mentor
3-ton, $39
6-ton, $46
9-ton, $62
15-ton, $92

Safety engineers' first choice for most efficient handling of "heavies," 3 to 15-ton dies, etc. No J & J has *ever* failed. Hook swivels without loosening bolt. Permanent assembly: forged hook, swivel bushing, chrome-vanadium bolt with self-cleaning threads (hex-head has knurled ring). Send in your old J & J's for conversion to new swivel: 3-ton, $24; 6-ton, $29; 9-ton, $39; 15-ton, $59. All prices f.o.b. Mentor. Ask for latest bulletin.

MENTOR PRODUCTS, Inc.
Box 20 Mentor, Ohio

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TA "King-Size" Instrument Cases 4 PAGES

TA Standard Instrument Cases 20 PAGES

Learn how TA's new predesigned Instrument Cases solve *your* equipment housing problems.

SEND FOR YOUR FREE COPIES!

THESE EXCLUSIVE FEATURES—STANDARD WITH TA—SAVE YOU TIME AND COST

1. Predesigned panel-layouts for perfect fit.
2. Large selection of standard sizes and styles.
3. Wide choice of standard handles, access doors, panels, and other accessories.
4. All standard Cases include panel gaskets.
5. All Cases protected by air relief valves.
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7. Fast delivery (prototypes in 4 weeks).
8. No tooling charges on standards.
9. Precision quality.
10. Reinforced aluminum construction.
11. TA Cases are color matched to, and integrated with, the instruments they are to contain.

INSTRUMENT MANUFACTURERS: If you make portable instruments or equipment, you can't afford *not* to investigate the TA line.

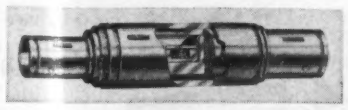
TA Cases come in a diversity of standard lid sizes, and are sold at proprietary prices. During assembly the depth can be cut to your exact specifications. Or, if you like, TA will furnish you free vellums and templates so you can save yourself money by designing your product to fit one of the many standard sizes.

Start saving big money right away. Send for your valuable free TA manuals *today!*

TA *Mfg. Corp.* 4607 Alger Street • Los Angeles 39, Calif. (or call CH 5-3748)
TWX 9863 Glendale, Calif. • WUX CAT Los Angeles, Calif.

▲ For more details circle NED-56 K on enclosed inquiry slip ▲

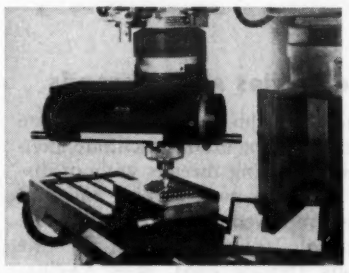
TORQUE CONTROL BAR
made in 50-26,000 lb-in. capacities



Driven member torques are prevented from overcoming driving member torques by the Smith-Nobak torque control bar, a straddle mounting, plain bearing torque device. Input torque in any direction immediately permits free rotation of the drive shaft. Continuous safety locking action against opposing torque is provided by the wedge-shaped lock bar. Load capacities range from 50 to 26,000 lb-in. Design modifications permit input and output shafts on the same side of the housing, dual output or input shafts, or other variations. Pin type or Woodruff key connections are incorporated. • **Ann Arbor Bearing & Mfg. Co.**, 815 Wildt St., Ann Arbor, Mich.

▲ For more details circle NED-57 K on enclosed inquiry slip ▲

TRACING TEMPLATE CUTTER
attaches to any vertical mill



Tracing templates can be cut directly from the drawing with the Mimik Templator. It attaches to any vertical mill, and makes templates from 0.003-in. shim stock which is sandwiched between two pieces of plastic to provide stiffness. Dial setting provides for any angle or radius; straight x and y dimensions are taken from the machine tool table. Suited for small lot production, it makes runs of several hundred with wear of less than 0.0001 in. • **Mimik Tracers Inc.**, 3901 Union St., Buffalo, N. Y.

▲ For more details circle NED-58 K on enclosed inquiry slip ▲

SUBSONIC DEGREASER
uses steam or electric heat

Automatic in-line cleaning of small parts is performed at high production rates by the Vibra-Bantam subsonic degreaser. A vibrating spiral elevator moves the work rapidly through nonflammable cleaning solvents and vapors without need for tote pans or baskets. Only 20 in. square and 42 in. high, the machine will process the full capacity of any screw machine, cold header, or punch press. Chips are automatically separated, and clean, dry parts emerge ready for inspection. Steam or electric heat is used. • **Manpro Corp.**, 1378 Hilton Rd., Detroit 20, Mich.

▲ For more details circle NED-59 K on enclosed inquiry slip ▲

REMOVE MOISTURE from COMPRESSED AIR LINES

2568

Air operated tools, instruments and controls demand air that is

COOL CLEAN & DRY

and the

MURPHY AFTERCOOLER SYSTEM GUARANTEES IT!

Write now for FREE Data Sheet No. 2568.

JAMCO

JAS. A. MURPHY & CO., INC.
1419 EAST HIGH STREET, HAMILTON, OHIO

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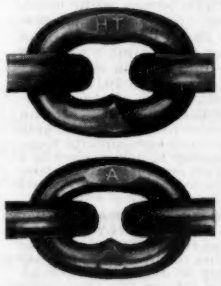
SEND FOR CATALOG

CM LIFETIME BRANDED LOAD BINDER CHAINS



INSWELL HIGH TEST—the favorite in the oil fields...features ultra-short, non-kinking carbon steel links. 3/8" size has a Working Load Limit of 5,100 lbs.

CM HERC-ALLOY—the ultimate in quality alloy steel chain...has no equal for rugged applications requiring high strength and durability. 5/16" size has a Working Load Limit of 5,000 lbs.

CM CHAIN

There is a difference in chains... specify CM for the best

COLUMBUS McKINNON
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Tonawanda, N. Y.
Distributors in All Areas

CM® HERC-ALLOY®

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MORRISON *Roly-House*

new STORAGE at less cost

PORTABLE STEEL UNIT

TWO SIZES
7'x7'
7'x10'4"

- The Morrison Roly-House has been tested to withstand snow loads up to 30 lbs. per square foot and wind velocities up to 100 miles per hour.
- All surfaces, both inside and outside, bonderized and painted
- Equipped with famous Morrison steel sectional upward acting Roly-Door.
- All parts pre-drilled for easy assembly.

MORRISON STEEL PRODUCTS, INC.
657 AMHERST ST. • BUFFALO 7, N. Y.

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MORRISON *Roly-Doors*

Slash DOOR Costs

COMMERCIAL-INDUSTRIAL

Complete range of sizes to meet all requirements

Morrison Roly-Doors are sectional upward acting overhead steel doors designed for residential, commercial and industrial applications. They roll up and down quickly, quietly, smoothly and safely, completely inside the building. In Roly-Doors, Morrison offers an extremely rigid all-steel door of welded construction that minimizes the number and weight of component parts.

MORRISON STEEL PRODUCTS, INC.
657 AMHERST ST. • BUFFALO 7, N. Y.

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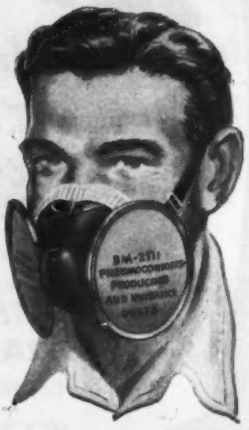
DEFEAT DUST

Nose, Throat and Lung Protection

DUPOR No. 24 RESPIRATOR



Approved by U.S. Bureau of Mines

Provides proven protection from pneumoconiosis-producing dusts. Filters the air and makes it clean. 24 sq. inches of filtration area. Soft rubber face mask. One of many DUPOR models of proven superiority. Write for literature. See your safety equipment supplier or order your sample direct —$3.25 postpaid.

H. S. COVER
Dept. 1005, South Bend 14, Ind.
"Respirators for Industry Since 1894"

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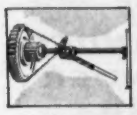
Amazing JACK FOR ALL TRADES!

HUNDREDS OF USES **LIFTS 3 TONS UP TO 40" HIGH**

Lifting light trucks, autos, etc.



Pulling gears, moving machinery

Used by Industry Everywhere:
- Western Pacific R.R.
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... and many other leading firms.

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YOURS FOR ONLY **$18.95** F.O.B. FACTORY

OVER 500,000 ALREADY SOLD

Hundreds of Industrial Uses for Famous
HANDYMAN JACK

Lifts, pushes, also hoists! Used every day by road contractors, builders, factories, stone mills, truck fleet operators, coal mines, etc. For its low price, Handyman saves user more time and labor than anything else on market—1 man can do work of 10! 48" high, weighs only 28 lbs. Automatic—lowers load step-by-step, lifts on down stroke of handle. Easy to keep clean. Guaranteed 3-ton capacity. Compact, light enough to hold in place by 1 hand. Shear pin prevents overload damage. Sturdily constructed of railroad steel and malleable iron; will last years.

SATISFACTION GUARANTEED OR YOUR MONEY BACK
Unless you find HANDYMAN worth far more to you than its small price, you may return it within 30 days for full refund. GUARANTEED for one full year.

MAIL YOUR ORDER TODAY!...
Order your HANDYMAN JACK now at only $18.95. You don't risk one cent on our unconditional money-back guarantee, so MAIL YOUR ORDER TODAY! Or write for additional information.

HARRAH MANUFACTURING CO.
73 East Spring Street - Bloomfield, Ind.

▲ For more details circle NED-67 K on enclosed inquiry slip ▲

Replace Broken Windows for the last time!

Save Constantly Recurring Material Costs!
WITH
Shatterproof PLASTIC GLAZING PANES

Realize important savings and greater safety with Auburn's complete supply of plastic glazing panes. Amazing impact strength — resists vibration and twisting — worst enemies of industrial windows. Fill plant with free daylight from sidelights and skylights without constant breakage expense.

for **TRANSPARENCY**—Use PLEXIGLAS, the aircraft glazing plastic. Impact strength 6 to 17 times greater than glass.

for **ECONOMY**—Use FILON fiberglass where visibility is not needed. No extra cost for color.

for **GLARE**—SUN SHADE—apply directly to window with water. Lets in light—filters out heat and glare. Translucent or transparent.

Standard glazing sizes come by the package. Special pane sizes cut to order. Easy to install.

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auburn PLASTIC ENGINEERING
4916-24 S. LOOMIS BLVD., CHICAGO 9, ILL.

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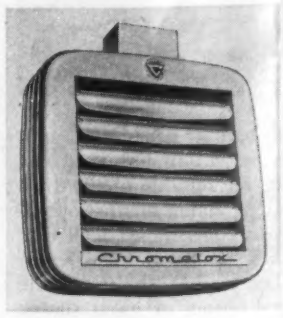
ELECTRIC UNIT HEATER
rated 17,065 to 85,325 Btu/hr



Space heating in industrial and commercial establishments is handled with Type LUH electric unit heaters. These attractive units have metal sheath Chromalox Fintube elements with built-in overheat protection. Wide fin spacing assures efficient operation, even in dirty atmospheres. Other features include totally-enclosed motor with thermal overload protection, balanced fan for quiet operation, adjustable horizontal louvers, choice of ceiling or wall mountings, and optional day-night automatic control. Heating capacities range from 17,065 to 85,325 Btu/hr with ratings from 5 to 25 kw. They operate on 208 and 480 v ac. • Edwin L. Wiegand Co., 7500 Thomas Blvd., Pittsburgh 8, Pa.

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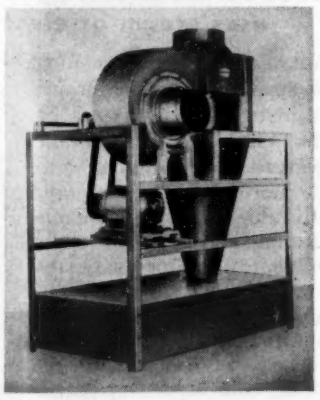
PIPE UNIONS
color code identifies seat, threads

Electroplated code colors available in the complete line of Catawissa hot forged steel pipe unions facilitate identifying the seat type and coupling threads without disassembly. Color will not rub, peel, or chip off, and corrosion resistance is improved. Cadmium, black, green, copper, and purple colors represent, in the case of head piece seats (female end), steel, O-ring, brass, and stainless steel seats, respectively. Seats in the union tail pieces are identified similarly, as are V-type, Acme, and Double Start threads in the coupling nuts. • Catawissa Valve & Fittings Co., Catawissa, Pa.

▲ For more details circle NED-70 K on enclosed inquiry slip ▲

DUST COLLECTORS
have improved dust separation



More efficient dust separation in 5000 Series Dustkop dust collectors is made possible through modification of the stack and the addition of an air control disc. These changes increase the flow of air through the cyclone separator. Used where large volumes of air are required, collector services up to 11 machines. It is basically an outside vented type, but converts into a recirculating collector with addition of a Filterkop filter house. • Aget Mfg. Co., 1384 Church St., Adrian, Mich.

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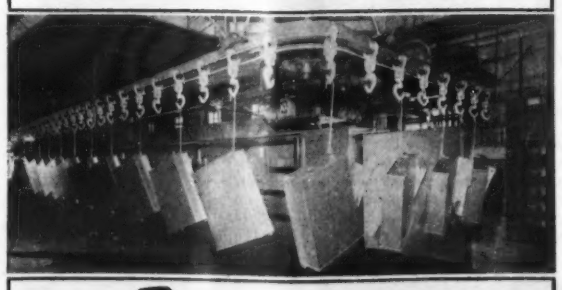
BUSCHMAN SPECIALIZATION
Pays Off In Your Plant

Buschman designs, manufactures and installs conveyors . . . good conveyors . . . *nothing but conveyors.* Specialists! Whatever you buy from Buschman is experience-engineered to fit your conveyor needs:

		SLAT
ROLLER	LIVE ROLLER	PUSHER BAR
WHEEL	OVERHEAD TROLLEY	LIVE STORAGE RACKS
BELT	TABLE-CABLE	ELEVATING EQUIPMENT

Buschman combines components in systems that effect greatest economy in your handling. Tell us your handling problems; we will send literature, suggestions. The E. W. Buschman Company, 4482 Clifton Ave., Cincinnati 32, Ohio.



Buschman CONVEYORS
Complete Conveyor Systems for all Types of Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities; See Yellow Pages
368

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Plants Use ...

KECKLEY
Float Valves

ANGLE OR GLOBE
No. 14—Single Seat—Pilot Stem Size ½" to 8"
No. 15—Balanced. Double Seated Size ½" to 12"

BECAUSE they can rely on Keckley's reputation for precise control—

BECAUSE they know Keckley Float Valves will give many years of reliable, trouble-free service—

BECAUSE from Keckley's *complete line* of Float Valves they can pick the valve best suited to their application—

BECAUSE they know they can get reliable engineering recommendations from Keckley, not only on Float Valves, but Temperature Regulators, Pressure Regulators, Strainers, Safety and Relief Valves.

Stocked by leading plumbing and heating wholesalers

Write for 46th Anniversary Catalog No. 58A

O. C. KECKLEY COMPANY
General Offices and Factory
3400 CLEVELAND ST., SKOKIE, ILLINOIS
Pressure Regulators • Temperature Regulators • Float Valves
Strainers • Solenoid Valves • Reducing Valves
Pop Safety Valves • Relief Valves

▲ For more details circle NED-73 K on enclosed inquiry slip ▲

A NEW ADDITION to MERCOID PRESSURE CONTROLS

SERIES D-41

316 Stainless Steel Bourdon Tubes

316 stainless steel welded Bourdon tube. ¼" (316) stainless steel pressure connection. Nickel plated mechanism. Outside adjustments. Calibrated dial. Hermetically sealed mercury contact.

Operating ranges: 30" vac.-75 psig; 10-100 psig; 30-400 psig; 75-800 psig. and 100-1000 psig.— with varying differentials and electrical capacity to meet your application.

WRITE FOR BULLETIN 019

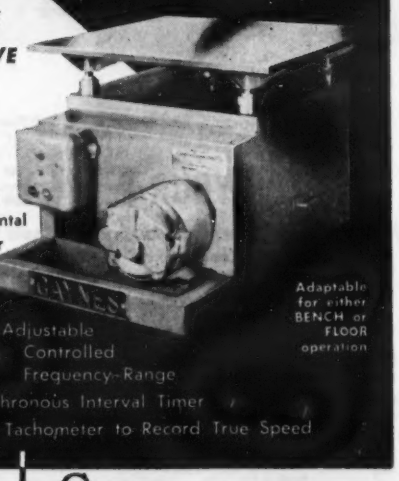
THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.

▲ For more details circle NED-74 K on enclosed inquiry slip ▲

Gaynes ALL-PURPOSE
VIBRATION TESTER

PRODUCTION QUALITY CONTROL
RESEARCH AND DEVELOPMENT
MILITARY SPECIFICATIONS TESTS

for the ELECTRONIC AUTOMOTIVE AIRCRAFT Industries



Can be arranged for either Horizontal or Vertical Linear Table Motion

Adaptable for either BENCH or FLOOR operation

- Adjustable Controlled Frequency-Range
- Synchronous Interval Timer
- Electrical Tachometer to Record True Speed

WRITE FOR INFORMATION

Gaynes Engineering Co.
1651 W. Fulton, Chicago, Ill.

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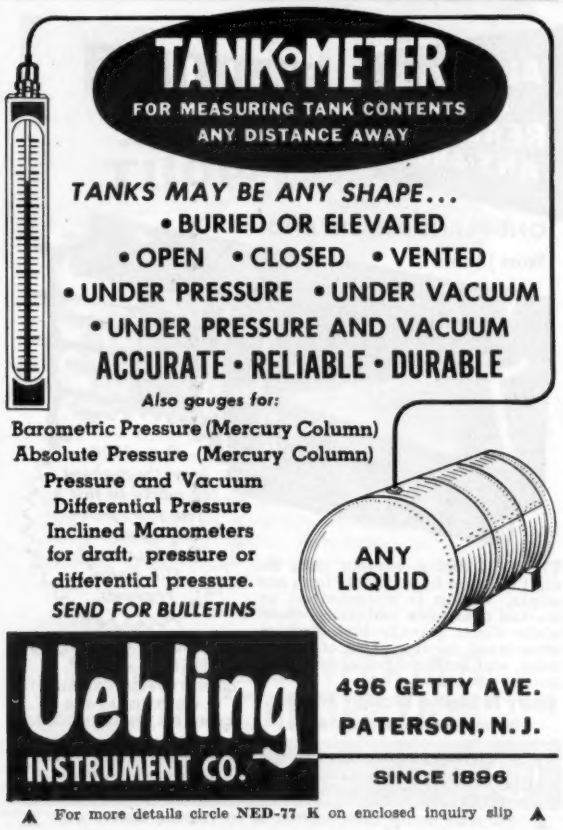
▲ For more details circle NED-76 K on enclosed inquiry slip ▲



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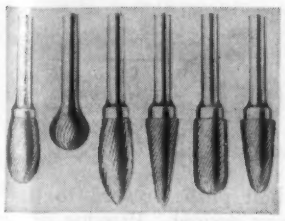
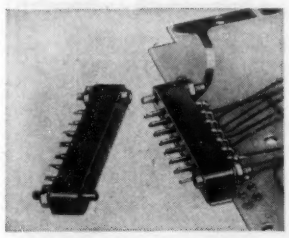
CARBIDE ROTARY FILES
"dead area" at tip eliminated



Advantages of both sectional and center fluting are combined in Bi-Dex tungsten carbide rotary files which have no "dead area" at the nose. Partial elimination of fluting at the index of the burr, accomplished by gradual beveling of every other tooth, assures effective cutting power over entire surface. Wider space between every other tooth aids flow of chips into areas of greater surface speed. Even chips of ductile materials are quickly eliminated. Files can be operated at ultra high, high, or slow speeds. • **Grobet File Co. of America**, Carlstadt, N. J.

▲ For more details circle NED-79 K on enclosed inquiry slip ▲

PRINTED CIRCUIT CONNECTORS
utilize pin and socket contact



Suited for many aircraft, electronic, and other applications, Series MD-1100 and SD-1100 printed circuit connectors utilize pin and socket contact. Fifteen contacts are staggered on 0.001-in. centers, and polarized mating guides preclude mismating. Solder pocket type socket contacts resist test prod damage and can be inserted into a connector block after wiring without special tools. Male connector is available in right angle or upright styles. • **Methode Mfg. Corp.**, 7447 W. Wilson Ave., Chicago 31, Ill.

▲ For more details circle NED-80 K on enclosed inquiry slip ▲

FORK LIFT TRUCK
with 10½, 14¼, or 21½-ft lifts

Lift capacity of Model 430 fork lift truck is 4000 lb in the 10½-ft and 14¼-ft maximum lift models. A 21½-ft lift unit will raise 2500 lb to maximum height. Available with either 38.5-hp gasoline or 41.5-hp diesel engine, truck has power steering, synchronized shuttle shift, and 48-fpm liftspeed. Truck is available with 36, 42, and standard 48-in. forks, along with such optionals as side shift and tilt-fork attachments, and special tires. A ½-yd materials bucket, ½ or ⅓-yd concrete bucket, block forks, crane boom, and angle dozer blade are also available and interchangeable with the pallet forks. Truck has eight forward speeds to 10.9 mph and eight reverse speeds to 21 mph. • **J. I. Case Co.**, 700 State St., Racine, Wis.

▲ For more details circle NED-81 K on enclosed inquiry slip ▲

AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for the money-saving facts.
AURAND MFG. & EQUIP. CO.
1322 Ellis St. • Cincinnati 23, Ohio

▲ For more details circle NED-82 K on enclosed inquiry slip ▲

HALF the world is half asleep! Men who could be making *twice* their present salaries are coasting along, hoping for promotions but doing nothing to bring themselves forcefully to the attention of management.

They're *wasting* the most fruitful years of their business lives . . . throwing away thousands of dollars they may never be able to make up. And, oddly enough, they don't realize—even remotely—the tragic consequences of their failure to forge ahead while time is still on their side.

Engineers and other technically-trained men are particularly prone to "drift with the tide" because their starting salaries are reasonably high and promotions come at regular intervals early in their careers. It isn't until later—too much later in many cases—that they discover there is a definite ceiling on their incomes as technicians.

Send for Your Free Copy of "Forging Ahead in Business"

If you want to discover how to succeed while you are still young—if you want to avoid the heartbreak of failure in later years—send today for *"Forging Ahead in Business"* . . . one of the most practical and realistic booklets ever written on the problems of personal advancement.

Here you will find—not a "pep talk," not an academic lecture—but cold, hard *facts* on how to improve your position and increase your income. You will be told what the qualifications of an executive are in today's competitive market . . . what you must *know* to make $15,000, $20,000 or more a year . . . what you must *do* to accumulate this knowledge.

"Forging Ahead in Business" was written for mature, ambitious men who seriously want to get down to bed-rock in their thinking about their business future. If you feel it is meant for you, simply fill in and return the coupon below. Your complimentary copy will be mailed to you promptly.

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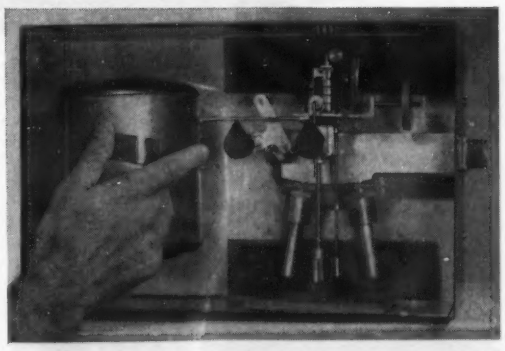
Firm Name .....
Business Address .....
Position .....
Home Address .....

▲ For more details circle NED-83 K on enclosed inquiry slip ▲

Low cost Detectogas Monitor guards against gas explosions

Unlike any other gas detection device—and at about ⅓ the cost—the Detectogas Unit monitors *continuously, without power* and *without attendant*. In normal, uncontaminated air a perfect balance is maintained (and stabilized against normal vibrations and air currents). But in the presence of lighter or heavier-than-air gases, the balance trips and triggers an explosion-proof switch. This can close any desired secondary circuit. Alarms can be sounded, valves shut off, exhaust fans started, phone calls placed—*automatically*.

Nothing detects gas like Detectogas. It is the first truly practical answer to the gas explosion hazard in schools, factories, warehouses, process plants, public and private buildings, hospitals, pipeline stations, refineries, bulk terminals, public works, laboratories, hotels, theaters, military installations and other facilities. The Detectogas Monitor can be the permanent key to your gas safety program. Assure an early demonstration in your facilities by writing today. Descriptive literature.



A new concept, the Detectogas Monitor is essentially a balance that detects changes in air density caused by the presence of foreign gases. The instrument is self-compensating for changes in air density caused by humidity, temperature or pressure variations. The Monitor will trigger any type alarm system. The compact unit (16" x 7" x 10") installs easily on any stable surface. Precision-manufactured by Texas Instruments.

DETECTO GAS
DETECTOGAS INSTRUMENTS, INC.
3110 Eastside, Houston 6, Texas

▲ For more details circle NED-78 K on enclosed inquiry slip ▲

Play it Safe in HAZARDOUS AREAS!

GEMCO
EXPLOSION•PROOF
ENCLOSURES

Protect hazardous areas in your plant *economically* with Gemco explosion-proof pushbutton stations and enclosures. Lightweight cast aluminum construction, Gemco modular construction permits special pushbutton stations containing 1 to 64 units in one enclosure.

Specials? Gemco *standard* enclosures are available with receptacles, viewing windows, *plus* pushbutton stations and control panels.

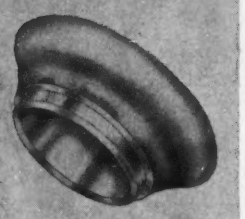
Design and construction; NEMA types 7 and 9.

Write today for Bulletin No. 659 on Gemco explosion-proof enclosures

GEMCO ELECTRIC COMPANY
25685 West 8 Mile, Detroit 40, Mich.

▲ For more details circle NED-84 K on enclosed inquiry slip ▲

Nothing SEALS as POSITIVE!



NYLTITE®

ROLLED NYLON WASHERS
make a positive seal up to 250°F and can be used with any standard fastener including tapping screws

NYLTITE WASHERS SEAL AND STOP LEAKS
WITHSTAND PRESSURE UP TO 15,000 PSI
RESIST VIBRATION • PREVENT CRAZING
RETARD ELECTROLYSIS AND ARE EXCELLENT FOR INSULATING

(Long, headed sleeves are also available from stock)

SEND FOR SAMPLES AND LITERATURE NOW!

NYLTITE CORPORATION OF AMERICA
280 BADGER AVENUE • NEWARK 8, NEW JERSEY

▲ For more details circle NED-85 K on enclosed inquiry slip ▲

HYDRAULIC CYLINDERS

• *prompt delivery*
• *competitive price*
• *wide choice of mountings*
• *compact design*

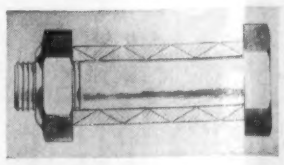
Choose the options best suited to your needs—the outside configuration can be standard or custom designed to suit your requirements when you specify Vickers hydraulic cylinders. Rod end threads, number of flats, port positions and straight thread port connections are among the external options available. Standard bore sizes range from 1½" to 6", in standard and heavy duty rod designs.

Get details in Bulletin 60-68.

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
9011 Department 1400 • Detroit 32, Michigan

▲ For more details circle NED-86 K on enclosed inquiry slip ▲

ADJUSTABLE DIAMETER BOLTS for any degree of radial tightness



Exacting radial fits in all holes is achieved with use of Adjusto-Fit adjustable diameter bolts. Upon tightening of nut, series of wedge-shaped rings or bushings around the bolt shaft push outward to the degree of diameter tightness desired. Pressing or careful matching of bolts to holes is not required. Advantages include ability to compensate for wear plus easy installation in hole. Bolts are available in mild steel and a variety of other materials in nominal diameters and lengths for applications ranging from economical commercial to ultra-high stress aircraft and missile uses. • **Adjustable Bushing Co.**, 12036 Vose St., North Hollywood, Calif.

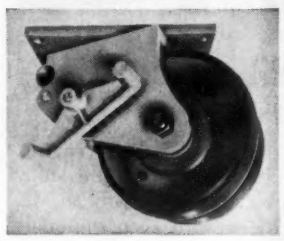
▲ For more details circle NED-87 K on enclosed inquiry slip ▲

MONITORING CONTROL CONSOLE supervises diverse system of alarms

Monitoring fire detection, watch clock stations, and burglar - intrusion systems is function of the Cons - O - Larm monitoring - control console. It can also be adapted to automated and nonautomated operations involving water flow, overheat, or various production danger alarms. The compact central station has a tape which automatically records the time and codes the location and type of alarm. Made to specification, the console can include closed circuit television, public address system, or telephone systems of any type. • **Kidde Ultrasonic & Detection Alarms, Inc.**, 476 Brighton Rd., Allwood Station, Clifton, N. J.

▲ For more details circle NED-88 K on enclosed inquiry slip ▲

DUAL WHEEL CASTER load rated at 2000-lb capacity



Missile dollies and similar rolling equipment for moving heavy loads are typical uses for this 2000-lb capacity dual-wheeled swivel caster. Four such casters allow easy manual movement of 8000-lb loads. Caster has two large ball load bearings and a Timken thrust bearing. Step down foot brake locks and releases easily. It is servo activated for either forward or backward movement—operator applies only a light tripping force. The 10-in. diameter wheels are Self-Energizing rubber-tired type. • **Roll Rite Corp.**, 801 Jefferson St., Oakland 19, Calif.

▲ For more details circle NED-89 K on enclosed inquiry slip ▲

NEW There IS a Difference in HIGH VACUUM PUMPING SYSTEMS

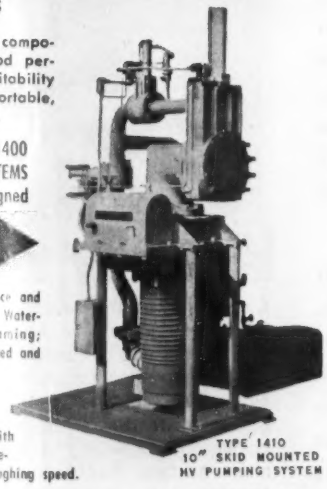
Complete, Factory-Assembled, Tested Pumping Systems

Using only high vacuum components of demonstrated good performance, reliability and suitability . . . Skid mounted or portable, ready for quick installation.

GENERAL VACUUM SERIES 1400 DIFFUSION PUMPING SYSTEMS Incorporate specially designed TWO-STAGE TRAP with Liquid-Nitrogen and Water-Cooled Baffles

This trap provides high conductance and low liquid-nitrogen loss rate. Water-cooled stage reduces backstreaming; liquid-nitrogen stage increases speed and lowers blank-off.

Series 1400 Pumping Systems give you the perfect Pumping Package in sizes from 2" to 32" with high speed backing pumps, or mechanical boosters for maximum roughing speed.



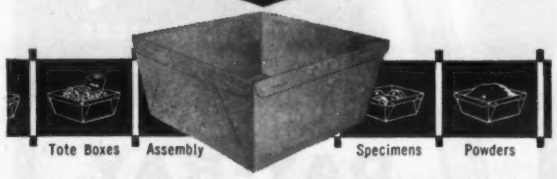
TYPE 1410 10" SKID MOUNTED HV PUMPING SYSTEM

Manual or Automatic Controls. Maximum Accessibility.
Literature on Request

GENERAL VACUUM CORPORATION
HICKS AVENUE, MEDFORD 55, MASSACHUSETTS

▲ For more details circle NED-90 K on enclosed inquiry slip ▲

BURNITOL DISPOSABLE UTILITY BOXES



SO MANY USES . . . SO ECONOMICAL!

Eliminate the cleaning and maintenance of small containers! Burnitol Utility Boxes are of one piece waxed paper board construction shipped ready for use. So economical they are readily expendable.

There's no limit to the uses of this sturdy container . . . from handling nuts and bolts to fine powders (siftproof). Ideal for small parts assembly or storage, Burnitol will hold wet or dry materials, and will hold water more than 24 hours. Uniform size: 6½" x 6½" x 3". Already in use in the country's largest industrial plants.

Write today for free samples and prices.

BURNITOL MANUFACTURING CO.
P.O. Box 118, Chicopee, Mass.

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ALL DIGITS CAN BE READ FROM ANY ANGLE

IN-LINE DIGITAL READOUT

featuring
ONE-PLANE PRESENTATION
Series 10000

Over 1000 firms throughout the world in just a few years prove unprecedented acceptance of IEE digital readouts.

The IEE digital readout puts the digit right up front, visible from any angle. Vision is unimpaired by stacked characters and sharp, clear-white digits provide high-contrast, error-proof reading. Use of words, color, and multiple projections offer utmost versatility.

Binary-To-Decimal Decoders Available.

Representatives in Principal Cities

PRICE COMPLETE $18.00
QUANTITY PRICES ON REQUEST
WRITE TODAY FOR COMPLETE SPECIFICATIONS.

INDUSTRIAL ELECTRONIC ENGINEERS, INC.
Engineers and Manufacturers of Fully Automatic Systems and Digital Readouts
5528 Vineland Avenue, North Hollywood, California

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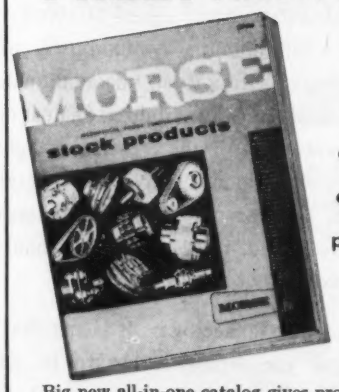
FREE! NEW MORSE STOCK PRODUCTS CATALOG



Gives selection and pricing data on all mechanical power transmission products

Big new all-in-one catalog gives properties and features, selection tables, and costs for Morse roller, double pitch, and silent chain . . . flexible couplings . . . torque limiters . . . cam clutches . . . and other Morse power transmission equipment.

Write today for Catalog SP-59 to MORSE CHAIN COMPANY, DEPT. 19-100, ITHACA, N.Y. A Borg-Warner Industry. Export Sales: Borg-Warner International, Chicago 3, Illinois.

MORSE BW
A BORG-WARNER INDUSTRY

▲ For more details circle NED-93 K on enclosed inquiry slip ▲

Cut to your order . . . F-C Glasteel pipe*

Immediate delivery is what you can now get when you need odd-size lengths to 10 feet of a corrosion-resistant, high-integrity lined pipe.

That's the availability story on Pfaudler® F-C Glasteel pipe when you order to size from our factory.

The F-C stands for "field cut." Which means you can also cut it in your own plant with a standard dry-abrasive cutoff wheel. After that it's a simple matter of threading, fire-polishing (using a small, portable furnace available from Pfaudler), and finishing with a belt sander.

F-C pipe is *steel* outside for strength and has a ⅛-inch-thick *glass* lining that stands up to all acids (except HF) to 350° F., and most mild alkalies at moderate temperatures. You can also use this pipe with abrasive fluids, sticky materials, and those you want to protect from contamination.

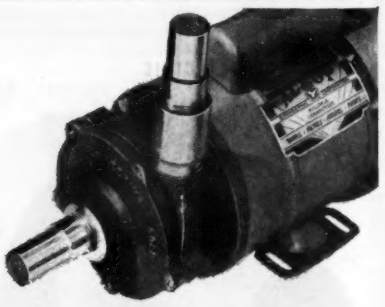
This pipe is rated at 150 psi and is supplied in 1½, 2 and 3-inch diameters.

For Complete Specifications, write to our Pfaudler Division, Dept. NED-100, Rochester 3, N.Y. *Patent applied for

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

▲ For more details circle NED-94 K on enclosed inquiry slip ▲

NEW LOW COST!



ALSOP "HY SPEED" Centrifugal Pumps

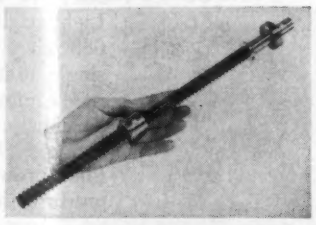
Try a new Alsop pedestal-mounted or close-coupled Centrifugal Pump to handle chemicals, slurries, relatively viscous fluids. Ruggedly constructed and designed especially for chemical applications, in 316 stainless steel. Pumps also constructed in standard materials. Mechanical seal or packing gland optional. Performance: up to 160 feet/head. Capacity: up to 130 g.p.m.—for motor ratings from 1/3 h.p. to 3 h.p.

Your pump problem is our challenge. Write today!

ALSOP ENGINEERING CORPORATION
NEW STREET
MILLDALE, CONNECTICUT

▲ For more details circle NED-95 K on enclosed inquiry slip ▲

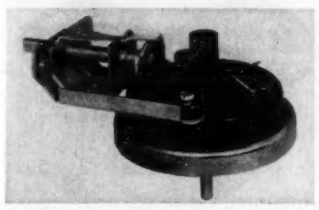
ELEVATING SCREW holds load without slippage



This antifriction replacement screw for Delta surface grinders, or for original equipment use, will hold any elevated load such as a grinding head, chuck, or jack without slipping. It also finds use as a spring spreader where compression is desired. Pitch accuracy is 1/1000 in. in 1 in. of travel. Screw has only four threads per inch for rapid positioning of load. Ball screw assembly is nonrecirculating to prevent counter-rotation. Anticorrosion treated screw is unaffected by dust or grit and requires no special lubrication. It measures ¾ in. in diameter and is 19 in. long, although other lengths can be requested. Price is $19.50. ● R.C.S. Tool Co., 1386 Van Owen St., Van Nuys, Calif.

▲ For more details circle NED-97 K on enclosed inquiry slip ▲

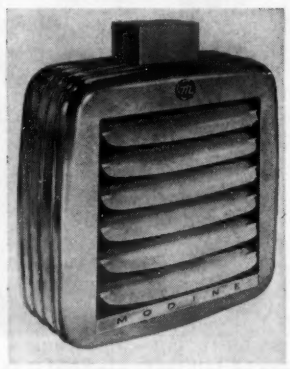
LIQUID LEVEL CONTROL adjustable unit can have time delay



Series 731 liquid level pressure switch control affords a variety of settings within one of several ranges. Suited for pump and vending machine use and, with noncorrosive parts, for marine pumps, it can be supplied with a built-in time delay mechanism for accurate control of agitated liquids. Unit is UL-listed for up to 10 amp at 250 v ac. Price is $7. ● Controls Co. of America, Appliance & Automotive Div., 9555 Soreng Ave., Schiller Park, Ill.

▲ For more details circle NED-98 K on enclosed inquiry slip ▲

ELECTRIC UNIT HEATERS seven capacities from 5 to 25 kw



Added to company's line of steam, hot water, and gas-fired unit heaters is a line of seven electric unit heaters in capacities from 5 to 25 kw. Models are available for 208, 240, 277, and 480 v. Heating elements consist of steel fins bonded to steel tubes encasing nichrome wires embedded in a magnesium-oxide dielectric. Built-in limit control prevents overheating. Units can be suspended from the ceiling or from a wall by means of an optional bracket. ● Modine Mfg. Co., 1500 De-Koven Ave., Racine, Wis.

▲ For more details circle NED-99 K on enclosed inquiry slip ▲

Westinghouse offers completely new concept in ultrasonic cleaning equipment

Two recent technological developments—our exclusive Trinistor* solid state circuitry and the new space-laminated magnetostrictive type Magnopak* transducer—have enabled Westinghouse to develop a complete line of ultrasonic cleaning systems which are much smaller and clearly more efficient than the competitive systems now available. In addition, these new systems provide unmatched reliability, sturdiness, and cleaning performance.

Literature is available which describes the various features of these new Westinghouse systems, and we'll be glad to send it to you if you would like a copy. Or perhaps you would prefer to discuss your particular cleaning problem with a Westinghouse ultrasonics engineer. In either event, just call, wire, or write to Mr. Albert Valente, Industrial Electronics Dept., Westinghouse Electric Corporation, 2519 Wilkens Ave., Baltimore 3, Md. *You can be sure . . . if it's Westinghouse.*

Westinghouse

At Right:

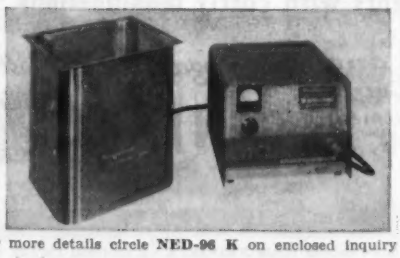
SMALL TABLE-TOP CLEANING SYSTEMS are especially useful for cleaning bearings and other complex mechanical assemblies. Here are small units packed with power, yet available at low cost.

Model WE-20. 3 watt intensity per square inch, 5 gal. tank and generator with 150 watt output.

$995

Model WEHH-10. 6-11 watt intensity per square inch, 1½ gal. tank and generator with 500 watt output.

$1250



Above:

NEW PORTABLE CLEANING SYSTEM features generator, transducer, tank and controls all mounted in a single compact roll-about console. Model pictured here has 6-11 watt intensity per square inch, 5 gal. tank and generator with 1,000 watt output. Model PM-WEHH-20.

$2690

*Registered Trade Mark J-35018

▲ For more details circle NED-96 K on enclosed inquiry slip ▲

See our display at Booth #139
Central States
Material Handling Show
Louisville, Kentucky
November 1st to 3rd

BIG NEWS

for PEOPLE WITH SPACE SAVING AND STORAGE PROBLEMS

THE Palmer-Shile Co. Announces THE NEW SERIES "75" STORAGE RACK

a complete storage rack "system" providing

●ADJUSTABILITY
●FLEXIBILITY and
●ADAPTABILITY
at a practical, economical price.

We invite your request for additional information and literature

DEPENDABLE CONSULT PS FOR THE BEST MATERIALS HANDLING EQUIPMENT

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16015 FULLERTON, DETROIT 27, MICHIGAN
Offices in Principal Cities
EXPORT OFFICE: 75 WEST STREET, NEW YORK 6, N.Y.

▲ For more details circle NED-100 K on enclosed inquiry slip ▲

GENERAL ELECTRIC

POWER AMPLIFIERS

New high-speed-of-response power amplifiers—now available—offer designed-in characteristics especially suitable as control or power source on high-performance or servo motor systems. Response improved 6 to 8 times over standard ratings. Exceptionally versatile in controlling voltage, current, speed and position on a variety of applications which require fast response. ***Direct Current Motor & Generator Dept., General Electric Company, Erie, Pennsylvania.***

▲ For more details circle **NED-101 K** on enclosed inquiry slip ▲

GENERAL ELECTRIC

SERVO MOTORS

Now direct-current drive motors designed specifically for automatic control systems. New General Electric servo motors with compensated windings offer fast response, low time constant, linear torque per ampere and low inertia. Used with the new G-E power amplifier, servo motors can be applied to improve characteristics of many high performance systems. ***Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.***

▲ For more details circle **NED-102 K** on enclosed inquiry slip ▲

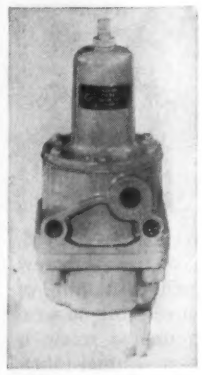
GENERAL ELECTRIC

MULTIPLE-OUTPUT GENERATORS

A new General Electric multiple-output generator makes it possible to drive several adjustable-voltage loads from a single generator—provides light weight, space-saving generating equipment for several independent drive motions. New design has compensating windings arranged so that independent field windings can control power output on any set of brushes. ***Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.***

▲ For more details circle **NED-103 K** on enclosed inquiry slip ▲

FILTER REGULATOR
keeps equipment gas supply clean



Lightweight die cast aluminum 080 filter regulator is suited for single unit hookups and production equipment, paint spray units, air chucks, gas drives, instruments, and air cylinders. With maximum inlet pressure of 250 psi, outlet pressure ranges of 0-5, 5-35, and 35-100 psi are provided. Options include handwheel adjustment and 1/4-in. side outlet tap for pressure gage mounting. Filter bowl contains a replaceable cartridge of wool fiber and a 1/8-in. drain valve at the bottom. Unit is available without internal relief valves. • **Rockwell Mfg. Co.,** Meter & Valve Div., 400 N. Lexington Ave., Pittsburgh 8, Pa.

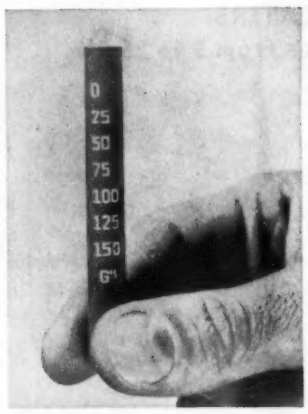
▲ For more details circle **NED-104 K** on enclosed inquiry slip ▲

CIGARET DUNKING STATIONS
canister lid finish eases cleaning

All crinkle - finished Sipco cigaret dunking stations now have satin finished canister lids. The smooth surface is easy to clean of ashes and presents an attractive duo-tone appearance. These stations are mounted on walls with signs promoting good plant housekeeping and fire safety. • **Standard Industrial Products Co.,** Dept. D, 3527 Farmington Rd., Peoria, Ill.

▲ For more details circle **NED-105 K** on enclosed inquiry slip ▲

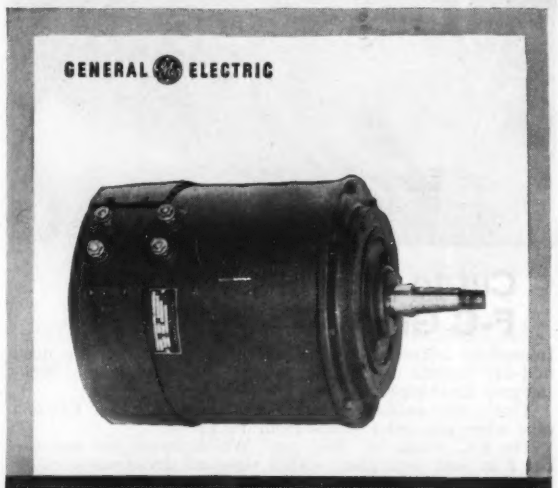
ACCELERATION INDICATOR
0.3-oz unit has 0-150 g range



This 2 7/8 x 3/8 in. diameter AI-1 acceleration indicator weighing only 0.3 oz is a direct indicating, single axis sensor that can be used wherever a record of maximum shock or accelation received is desired. Typical uses include aircraft landing gear, shock testing of equipment, and shipping of delicate instruments or other equipment. Unit is accurate to within ±5 per cent of full scale range of 0 to 150 g. Other "g" ranges are available. It is mounted in a cable clamp, fuse clip, or bracket. • **Eastern Technical Associates, Inc.,** Main Street, North Acton, Mass.

▲ For more details circle **NED-106 K** on enclosed inquiry slip ▲

GENERAL ELECTRIC



LOW VOLTAGE MOTORS

New General Electric low voltage, high current drive motors pack more power in smaller frame—are job tailored to meet torque and thermal requirements of a wide variety of battery powered traction, conveyor and lift applications. Typical uses: battery powered trucks, electric vehicles of all kinds; motors for hydraulic pumps, conveyors and lifts. ***Direct Current Motor & Generator Dept., General Electric Co., Erie, Pa.***

▲ For more details circle **NED-108 K** on enclosed inquiry slip ▲

GENERAL ELECTRIC

CUSTOM TAILORED D-C SPECIALS

Pancake-type motors, built-in motors, direct drives and permanent magnet fields are a few of many new General Electric special direct-current rotating machines being developed for modern applications. Designed for special functions, many of these G-E innovations offer important new opportunities for machinery manufacturers to improve product performance and reduce costs. ***Direct Current Motor and Generator Dept., General Electric Co., Erie, Pennsylvania.***

▲ For more details circle **NED-109 K** on enclosed inquiry slip ▲

QUALITY GENERAL ELECTRIC PRODUCTS shown on this page are typical of many d-c specials being developed and built by General Electric to meet industry's dynamic requirements. Within the past 24 months, G.E. has developed ultra-slow-speed motors for gearless direct-drives, underwater propulsion motors and special-purpose contouring drives. Experience gained from these and other developments for more than half a century can be applied to your particular problem quickly and economically. Experienced G-E engineering and manufacturing personnel and modern plant facilities are available to handle—exclusively—the design and manufacture of your non-standard equipment often at a lower cost than standard components with costly modifications. 821-3

If you have a special drive problem, write Direct Current Motor & Generator Department, 3001 East Lake Rd., Erie, Pa.

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle **NED-107 K** on enclosed inquiry slip ▲

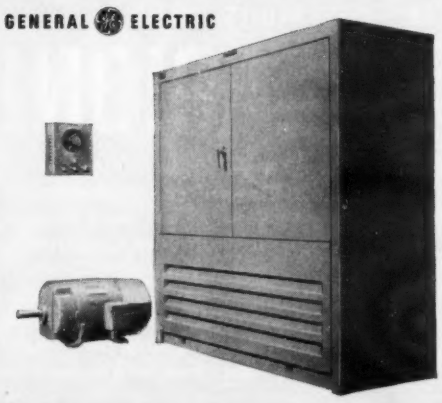
GENERAL ELECTRIC

THYMOTROL* SPEED VARIATOR

Supplying either constant-torque or constant-horsepower load requirements, General Electric's Thymotrol packaged adjustable-speed drive features electronic power conversion, a wide stepless speed range, small and lightweight, hp ratings ¾ to 10, simple to install. Costs less to operate and maintain, and improves product quality and machine output. General Purpose and High Performance types. Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.

▲ For more details circle NED-110 K on enclosed inquiry slip ▲

GENERAL ELECTRIC

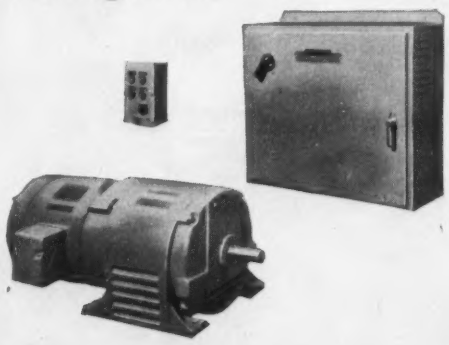


KINAMATIC® SPEED VARIATOR

General Electric's Kinamatic Speed Variator, industry's most versatile, packaged electric drive, features Kinamatic motor-generator conversion. This drive combines a speed range up to 200:1, ratings from 1–500 hp, a wide variety of power unit, motor and control modifications to meet your requirements. The Kinamatic Speed Variator offers such control functions as jogging, dynamic braking, reversing, multi-motor control. Direct Current Motor and Generator Dept., General Electric Co., Erie, Pennsylvania.

▲ For more details circle NED-111 K on enclosed inquiry slip ▲

GENERAL ELECTRIC

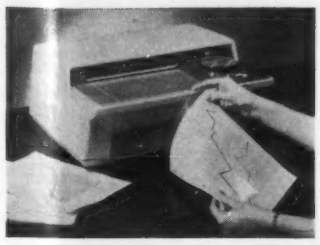


KINATROL* SPEED VARIATOR

General Electric's new low-cost all electric packaged drive utilizes a simplified, dependable method of torque and speed control, the eddy current coupling principle, to provide adjustable-speed torque directly from a-c power lines. Compact and versatile, Kinatrol drives provide 1–100 hp, stepless speeds from 1½:1 to 17:1 with 2% speed regulation—an outstanding packaged drive value. Direct Current Motor and Generator Department, General Electric Company, Erie, Pennsylvania.

▲ For more details circle NED-112 K on enclosed inquiry slip ▲

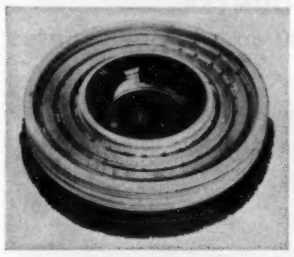
PAPER-FILM LAMINATING PROCESS performed on Thermo-Fax copiers



Papers, letters, cards, charts, photographs, and other written or printed documents can be laminated with a protective plastic film on existing Thermo-Fax copying machines. Process involves no special equipment or adjustments. Originals and sheets are inserted in the machines and emerge seconds later bonded with a tough, transparent seal that resists moisture, liquids, grease, and smudges. Cost of laminating an 8½ x 11-in. document on both sides ranges from 9 to 12 cents depending on quantity. A two-side lamination takes less than 1 min. • **Minnesota Mining & Mfg. Co.,** Dept. SO-138, 900 Bush Ave., St. Paul 6, Minn.

▲ For more details circle NED-113 K on enclosed inquiry slip ▲

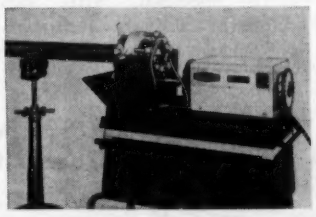
FLOOR MACHINE BRUSHES showerfeed type with wood back



Bassine fiber is standard and other types of bristle materials, including Tynex nylon, are optional in Flo-Pac wood back showerfeed style brushes for floor machines. Hardwood plywood backs are impregnated with a sealer to prevent moisture absorption and warpage. Grooves and soap holes are placed to allow gravity feed of cleanser or detergent to the surface being cleaned. Sizes for most machines are offered. • **Flour City Brush Co.,** 1501 Fourth Ave. S., Minneapolis 4, Minn.

▲ For more details circle NED-114 K on enclosed inquiry slip ▲

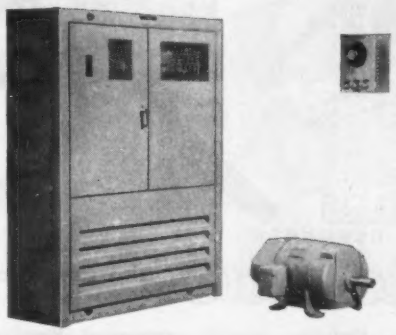
PIPE THREADING UNIT extends machine capacity to 4 in.



Designed primarily for use with the present Oster No. 552 pipe threading machine, this geared die-stock unit can be adapted to any existing Oster 2-in. machine. It replaces the regular die-head on the machine and will thread up to 4-in. pipe. Unit consists of a special tool support which slides on the machine's bedways after standard carriage is removed. The 4-in. die-stock is supported on two sides of the carriage and is driven by a short drive-shaft from the chuck of the machine. Tool is held stationary and pipe revolves as thread is cut. Coolant is supplied to threading dies through two oil lines. • **Oster Mfg. Co.,** 1340 E. 289th St., Wickliffe, Ohio.

▲ For more details circle NED-115 K on enclosed inquiry slip ▲

GENERAL ELECTRIC

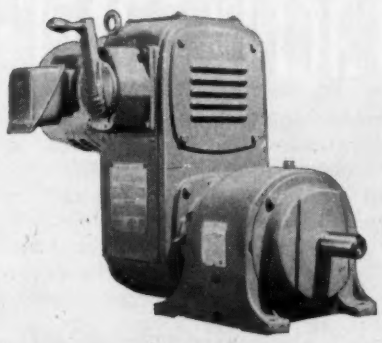


PARMATIC SPEED VARIATOR

Parmatic packaged adjustable-speed d-c motor drive operates from a-c power by power amplistat conversion, featuring hermetically sealed silicon rectifiers. Speed is varied by controlling armature voltage and field current. Select from horsepower ratings 1–200, for both constant torque or constant horsepower applications. Lightweight, quiet, and vibrationless, it provides fast, accurate response, reduced maintenance costs. Direct Current Motor and Generator Dept., General Electric Company, Erie, Pennsylvania.

▲ For more details circle NED-117 K on enclosed inquiry slip ▲

GENERAL ELECTRIC



POLYDYNE® DRIVE

General Electric's Polydyne drive provides mechanical speed adjustment for a-c powered machines. It supplies constant torque, responds quickly to speed adjustments. Designed in a wide variety of configurations with manual or automatic speed controls, it needs little maintenance. Dependable, low-cost Polydyne drives provide speed ranges to 10:1, ¼ to 25 horsepower. Gear Motor & Transmission Components Dept., General Electric Co., Paterson, New Jersey.

▲ For more details circle NED-118 K on enclosed inquiry slip ▲

GENERAL ELECTRIC ADJUSTABLE-SPEED DRIVES are available for every performance level, every price range to help you boost output, improve quality, increase machine flexibility, reduce installation costs, cut your maintenance budget, add substantial profits to your business.

To make possible these advantages, your General Electric sales engineer is backed by an experienced team of adjustable-speed drive specialists—men who work constantly to help you get more out of your machines.

They offer an unbiased, analytical evaluation of your requirements—recommend the adjustable-speed drive that meets the demands of your application most completely and economically.

If you have a special adjustable-speed drive problem, write Direct Current Motor and Generator Department, Erie, Pa. 821-06

**Trademark of General Electric Co.*

Progress Is Our Most Important Product

GENERAL ELECTRIC

▲ For more details circle NED-116 K on enclosed inquiry slip ▲

Handiest TOOL IN THE PLANT!

CLEMENTS Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS ...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | CLEMENTS MFG. CO. 6627 S. Narragansett Ave., Chicago 38, Ill.

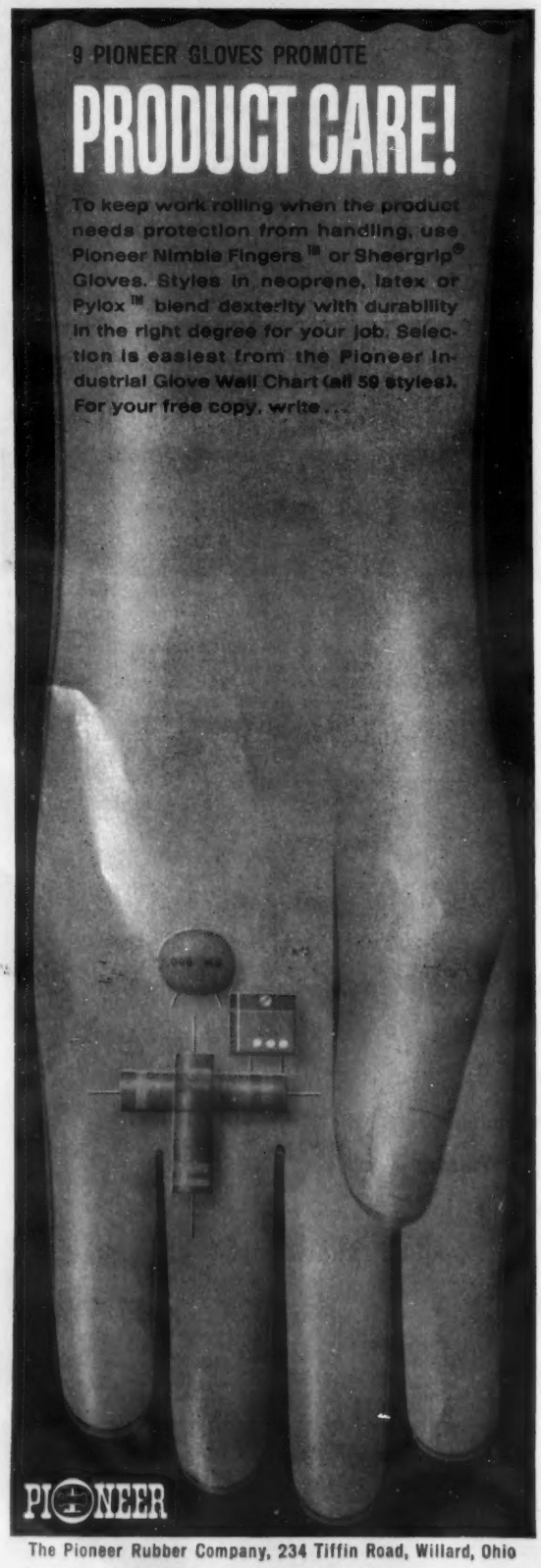
SINCE 1910 Specialists in Quality Cleaning Equipment

▲ For more details circle NED-119 K on enclosed inquiry slip ▲

9 PIONEER GLOVES PROMOTE

PRODUCT CARE!

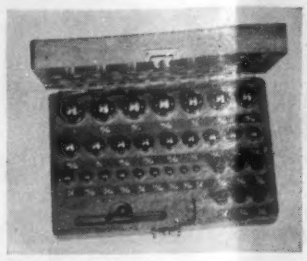
To keep work rolling when the product needs protection from handling, use Pioneer Nimble Fingers™ or Sheergrip® Gloves. Styles in neoprene, latex or Pylox™ blend dexterity with durability in the right degree for your job. Selection is easiest from the Pioneer Industrial Glove Wall Chart (all 59 styles). For your free copy, write . . .



The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio

▲ For more details circle NED-120 K on enclosed inquiry slip ▲

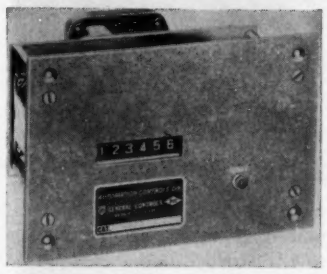
CARBIDE MASTER BALLS
check hole depths, tapers, gages



Available from stock individually and in sets, these tungsten carbide master balls are made to ±0.000010-in. size tolerance, 0.000010-in. sphericity, and 1-microinch finish. Applications include checking of hole depth, inside diameters, and internal tapers, and setting and checking comparator gages. Extremely hard, and wear and impact resistant, balls are dimensionally stable and will not pit or rust from handling or humidity. Thirty-one sizes from 1/16 to 1 in. in 1/32-in. increments are offered in Set No. 310 shown. Three other sets have lesser numbers of balls. All sets have Philippine mahogany cases and handling tweezers. • **Industrial Tectonics, Inc.,** Ball Div., 3686 Jackson Rd., Ann Arbor, Mich.

▲ For more details circle NED-121 K on enclosed inquiry slip ▲

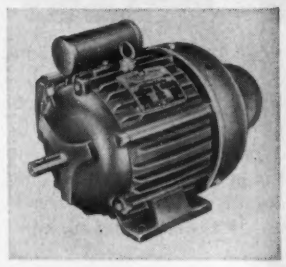
ELECTRIC RESET COUNTER
operates at 1000 counts per minute



Six - digit CE - 620 electric reset counter is available with pushbutton, mechanically operated switch, photoelectric, electronic, or other type of relay. It registers one count for each actuating impulse and can operate at up to 1000 counts per minute. Many variations available in the count-to-pulse ratio, as well as a 7-digit counter, adapt the unit to such applications as counting dozens, fractions, coins, etc. Counters are available for 120 or 24 v, 60 cycles, as well as other ac voltages. Built-in pushbutton reset, or terminals for remote reset switch can be specified. Unit measures 6 x 5⅛ x 4 in. • **General Controls Co.,** PIC Automation Controls Div., 8066 McCormick Blvd., Skokie, Ill.

▲ For more details circle NED-122 K on enclosed inquiry slip ▲

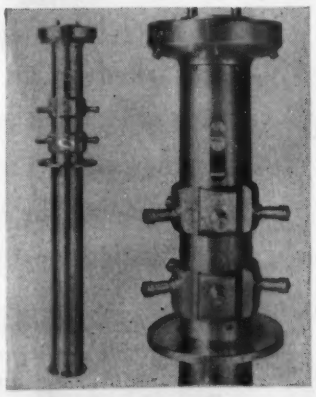
TOTALLY-ENCLOSED MOTOR
has external centrifugal switch



Totally - enclosed, single-phase motor in capacities from 1 to 5 hp has internal fans to recirculate internal air and eliminate hot spots. A large external fan, protected by a hood, blasts air over heat-dissipating fins of the frame. Dust and moisture cannot enter the motor, and condensate inside can be bled off through two plugged openings. Centrifugal switch mounted on outside for accessibility disengages when motor attains preset speed, so that motor does not operate on both starting and running current simultaneously. Motor is available in all standard speeds. • **Brook Motor Corp.,** 3302 W. Peterson Ave., Chicago 45, Ill.

▲ For more details circle NED-123 K on enclosed inquiry slip ▲

MULTIPLE-HEAD SHOWERS
have 40-sec water-metering device



Water - saving device now provided on the entire line of Bradley multiple-head showers delivers either cold or tempered water for about 40 seconds. Each head on shower unit is individually controlled by a button and cannot be left running. Showers can be furnished with or without partitions, for 2, 3, 4, and 5 persons, and with pressure balancing valves, self-closing valves, single tempered water valves, or without valves for remote control. Self-contained or remote liquid soap dispensers are also available. • **Bradley Washfountain Co.,** 2203 W. Michigan St., Milwaukee 1, Wis.

▲ For more details circle NED-124 K on enclosed inquiry slip ▲

181 Snap-on WRENCHES

...for all kinds of nut-turning jobs

5181-GS-B Nut-Turning Set

• Includes 1/4, 3/8, 1/2 and 3/4-in. square drive socket sets; combinations; hex heads; Flex-heads; open-ends; BOXOCKETS® and ratcheting BOXOCKETS; even ignition wrenches • A size and style for almost every job • Sizes from 3/16 to 1-7/8 in. • Convenient, portable — goes anywhere.

The new SNAP-ON industrial tool catalog is available on request. Contact your nearest branch . . . or write direct.

FOR ALL INDUSTRY

SNAP-ON TOOLS

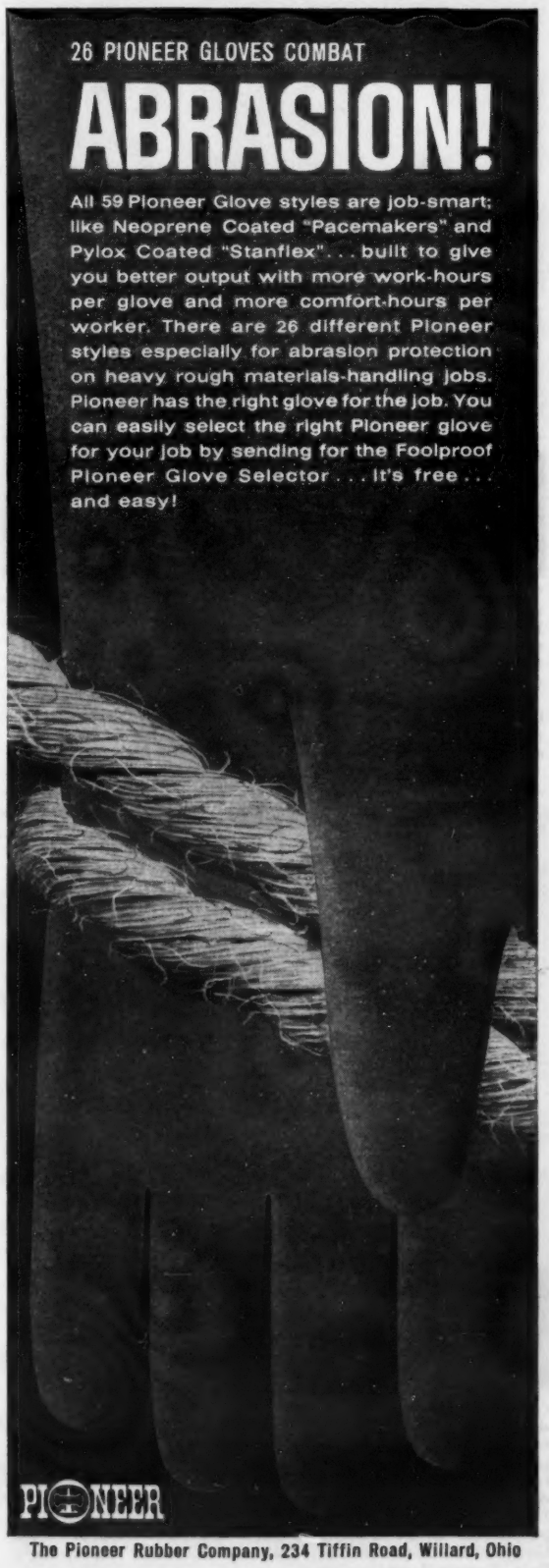
8110-J 28th AVENUE • KENOSHA, WISCONSIN

▲ For more details circle NED-125 K on enclosed inquiry slip ▲

26 PIONEER GLOVES COMBAT

ABRASION!

All 59 Pioneer Glove styles are job-smart; like Neoprene Coated "Pacemakers" and Pylox Coated "Stanflex"... built to give you better output with more work-hours per glove and more comfort-hours per worker. There are 26 different Pioneer styles especially for abrasion protection on heavy rough materials-handling jobs. Pioneer has the right glove for the job. You can easily select the right Pioneer glove for your job by sending for the Foolproof Pioneer Glove Selector . . . it's free . . . and easy!



The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio

▲ For more details circle NED-126 K on enclosed inquiry slip ▲

YOU CAN

PAINT OVER RUST

Brush or spray OSPHO right on rusted metal.

Apply OSPHO® on rusted metal after simply wire-brushing loose rust. OSPHO chemically changes rust into iron phosphate and stops further rust action. Resulting inert surface is an excellent base for maintenance paint. Paint jobs last longer, as proved by repeat orders over past 12 years.

Non-toxic, non-flammable. A gallon treats up to 600 sq. ft. Treats new metal too — including galvanized and aluminum.

1-gal. bottles (cases of 4) @ $3.50 per gal.
5-gal. pails @ $3.40 per gal. • 50-gal. bbls. @ $3.00 per gal.
F.O.B. CLEVELAND

NO-RISK OFFER. Order 5 gallons. Try OSPHO. If it does not do what we claim, *we'll cancel the invoice.*

RUSTICIDE PRODUCTS COMPANY
3131 Perkins Ave., Cleveland 14, Ohio
Quality Maintenance Products Since 1917

▲ For more details circle NED-127 K on enclosed inquiry slip ▲

21 PIONEER GLOVES COMBAT

CHEMICALS!

There's a Pioneer glove to protect workers from chemicals, chemical burns or hand dermatitis. Of the 59 Pioneer Glove styles, 21 are designed to give long service in at least 103 basic oils, greases, acids, solvents and other chemicals. This includes all of the long-wearing Milled Neoprene Pioneer styles that bear this recognized Pioneer trademark.

STANZOIL PIONEER

PIONEER

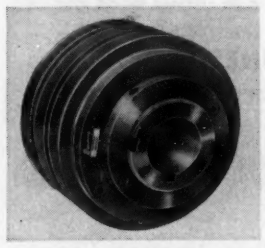
The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio
▲ For more details circle NED-128 K on enclosed inquiry slip ▲

HIGH CHAIR
seat adjusts to 43 in. from floor

Seat of this "high-high" chair adjusts from 35 to 43 in. from floor for operator or other worker who must be seated at an unusual height. The Ajustrite mechanism allows user to achieve the desired height by simply lifting the hardwood saddle seat. Backrest is adjustable horizontally and vertically. Base is made of 1⅛ in., 16-gage steel tubing. • **Ajusto Equipment Co.**, 515 Conneaut St., Bowling Green, Ohio.

▲ For more details circle NED-129 K on enclosed inquiry slip ▲

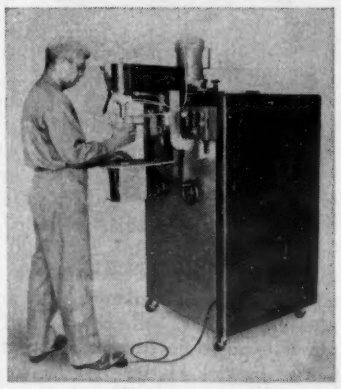
VARIABLE PITCH DRIVES
easily adjusted multigroove type



Sheave for MVP Series of multiple groove variable speed drives consists of two series of angular faced flanges, one bolted to a fixed flange and the other bolted to a threaded collar. Turning the collar in either direction causes the belts to ride higher or lower in the grooves to increase or decrease pitch diameter. Fixed bore and bushed types of variable pitch sheaves are offered for A, B, and C belts. The bushed type uses the Browning malleable split taper bushing system. Matching sheaves are made with 2, 3, 4, 5, and 6 grooves, in a wide range of pitch ranges, diameters, and bore sizes. • **Browning Mfg. Co.**, 1940 Browning Dr., Maysville, Ky.

▲ For more details circle NED-130 K on enclosed inquiry slip ▲

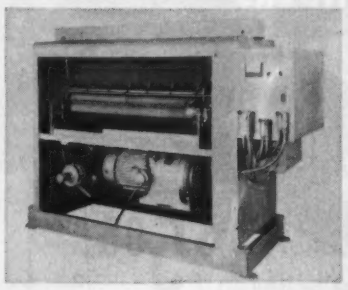
RESIN METERING PUMPS
for two and three-component mixes



Series 600 metering pumps are designed to handle a full range of resins and curing agents. Type II mixes and dispenses measured shots of two-component resins, whereas Type III delivers measured shots of three-component resins. A continuous flow of two-component resins up to 40 lb per minute is delivered by Type IV pumps. Variations are available in volume per shot, rate of shot, ratio change, and volume mixing chambers. Integral heating system, cooling for mixing chamber, front mounted controls, stainless splash panel, and adjustable speed agitator are among features. • **H. V. Hardman Co.**, 571 Cortlandt St., Belleville 9, N. J.

▲ For more details circle NED-131 K on enclosed inquiry slip ▲

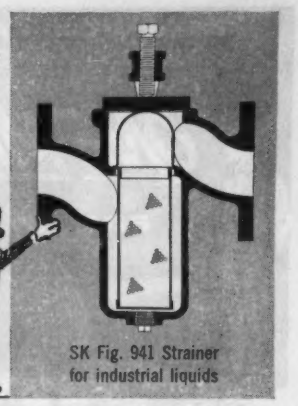
OSCILLATING SHEET SURFACER
prepares metal for drawing, graining



Cleaning and preparing of sheet metals for drawing, graining, and polishing are performed quickly by the Tri-Matic oscillating sheet surfacer, available with workhead lengths from 48 in. upward. Abrasive impregnated nylon mounted on an arbor can be adjusted to oscillate from 0 to 400 times per minute. Variable speed, feed, work pressure, and oscillation afford flexibility for finishing any sheet material. Work is supported by an idler or powered billy roll that is stationary or electrically timed, or by a powered conveyor. Machines with multiple heads on the same conveyor are available and can be furnished for either dry or wet operations. • **Sales Service Mfg. Co.**, 2363 University Ave., St. Paul 14, Minn.

▲ For more details circle NED-132 K on enclosed inquiry slip ▲

NEW STRAINER
QUICK DELIVERY
NEW LOW COST



SK Fig. 941 Strainer for industrial liquids

This new "industrial-liquids" strainer is designed to give *SK quality* at *low cost.* It is made and stocked (for quick delivery) in 2, 2½, 3, 4, and 6 inch sizes, all flanged. Offers low pressure drop.

The Fig. 941 has a cast iron body and cover, ductile iron clamp, stainless steel basket. Six inch size has a bolted cover. Baskets have ⅛ inch diameter holes; free pipe area is 5 to 1 in all sizes. Available with mesh liners for finer straining—stainless steel case then provided with ¼ inch holes.

Requests for quotations and literature handled promptly. For quick action, write or call SK direct.

Schutte and Koerting COMPANY
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
Phone: MErcury 9-0900
JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

▲ For more details circle NED-133 K on enclosed inquiry slip ▲

5 PIONEER GLOVES COMBAT FATIGUE,

HEAT, COLD!

When the worker calls for hand comfort, you call for one of the 5 Pioneer lined, liquidproof glove styles. They're lined against temperature extremes and coated with neoprene or Pylox™ against liquid penetration. See these and 54 other glove styles in your free copy of the Pioneer Industrial Glove Catalog. For your free copy write . . .

PIONEER

The Pioneer Rubber Company, 234 Tiffin Road, Willard, Ohio
▲ For more details circle NED-134 K on enclosed inquiry slip ▲

Horizontal Style 14H

CAR PULLER

MORE QUALITY FEATURES

- Greater safety factor for personnel . . . no rope to snub with wire rope car puller.
- Save time, labor and money . . . one man can quickly and easily spot several fully loaded box cars.
- A type and size to fit your exact requirements.
- Rugged construction for trouble free service.
- Stocked for immediate delivery.

WRITE FOR BULLETIN 753

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS

PLANTS LOCATED IN: LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

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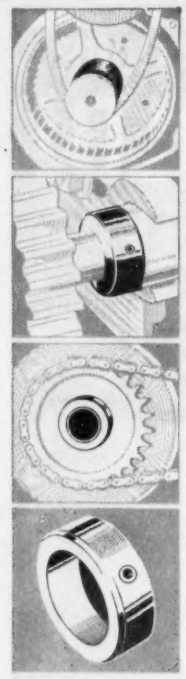


HALLOWELL steel collars

—practical answer to dozens of fastening problems

If your product incorporates shafts or spindles, HALLOWELL steel collars can help you simplify design and purchasing. For example, you can utilize these versatile fasteners as thrust collars, locking collars, spacers, cam operators, valve stem adjusting collars, indexing devices, hubs for plate sprockets, etc. And you can get immediate delivery (sizes 1/16 through 3 inch bore) from local dealer stocks. Collars feature famous UNBRAKO knurled cup point set screws for positive locking action. See your SPS distributor or write direct for new folder 2554 offering latest application ideas.

INDUSTRIAL FASTENER Division SPS

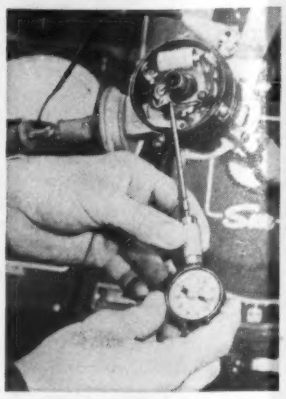
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-136 K on enclosed inquiry slip

For more details circle NED-137 K on enclosed inquiry slip

SPRING TENSION GAGE

push-pull type in 16 to 80-oz ranges



Breakaway force needed to move an object held by a spring, inertia, or friction is measured with this spring tension gage. It can be used to check tension of springs of auto distributor breaker arm, generator, and starter-brush holder, or wherever engines or electrical equipment are used. Dial is calibrated both for compression and tension readings. Accuracy is within 2 per cent. An adjustable maximum-reading red pointer is provided for taking reading where dial is not easily seen. Gage is offered in 16, 32, 40, 60, and 80-oz ranges with 1½-in. diameter dial. • **American Machine & Metals, Inc.**, United States Gage Div., Sellersville, Pa.

For more details circle NED-138 K on enclosed inquiry slip

BALL SCREWS & SPLINES

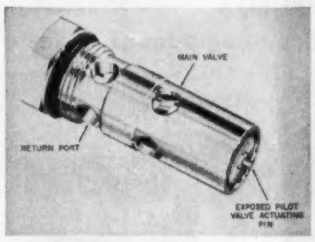
standard units offered at low cost

Loads are moved with low breakaway friction with these 90-per cent efficient standard ball screw and spline assemblies. Accuracy of ground thread assemblies is sacrificed in these units in the interests of lower prices and more competitive applications. Their use minimizes space requirements. Line includes a range of sizes. • **Beaver Precision Products, Inc.**, 651 Rochester Rd., Clawson, Mich.

For more details circle NED-139 K on enclosed inquiry slip

CARTRIDGE RELIEF VALVE

regulates hydraulic circuit flow



Instant response to surge pressures in any hydraulic circuit is provided by this 30-gpm capacity cartridge relief valve. It plugs into any housing which has pump pressure and provision for return to reservoir. Valve is factory set to specifications and is suitable for situations demanding tamperproof operation. From trickle to full flow, differential is less than 100 psi. Less than 50 psi differential exists between crack and closing pressures, with no internal leakage. Pin and hole orifice at inlet pressure port is self-cleaning. Pilot valve's actuating pin is exposed to line pressure at all times. • **Fawick Corp.**, Fawick Hydraulic-Electronic Div., 9919 Clinton Rd., Cleveland 11, Ohio.

For more details circle NED-140 K on enclosed inquiry slip

NEW low priced STAINLESS STEEL AIR CYLINDERS

BIMBA

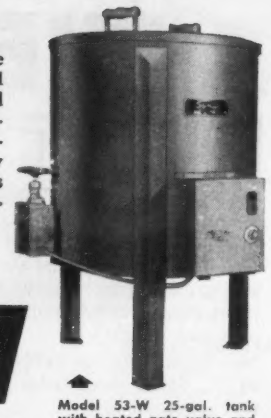
• 1 1/16" bore • double acting • stainless steel heavy wall tubing type 304 • exclusive BIMBA rolled edge construction • "U" cup piston and rod seals • front nose mounting

BIMBA MANUFACTURING CO.
103 MAIN STREET MONEE, ILLINOIS

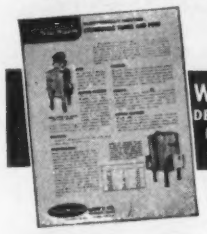
For more details circle NED-141 K on enclosed inquiry slip

Sta-Warm ELECTRICALLY HEATED CYLINDRICAL TANKS for melting and dipping compounds

Numerous capacities. Range of voltages. Variety of useful accessories. All engineered to fit your production requirements. Every Sta-Warm melting tank is built to efficiently and economically supply its full rated production of properly melted compounds.



Model 53-W 25-gal. tank with heated gate valve and automatic control.



Write FOR DESCRIPTIVE BULLETIN TODAY

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

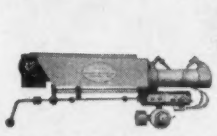
Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

For more details circle NED-142 K on enclosed inquiry slip

*Anything you need in a drill press feed...

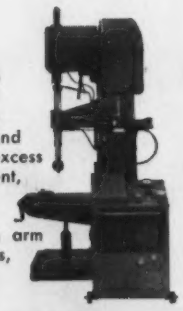
BECKETT HAS IT!

ELECTRICALLY CONTROLLED AIR FEEDS. Drilling and Drilling-Tapping Models. Beckett electrically controlled feeds provide proper thrust and correct drilling/tapping action for work in almost any material. Drilling-tapping models will tap direct from drill chuck, eliminating tapping heads, clutches, leadscrews, etc. Standard duty model has 2½" stroke and 740 lbs. max. thrust; heavy-duty model has 4" stroke and 1250 lbs. max. thrust, on 1¼" pinion shaft at 100 psi air pressure.



MECHANICALLY (manually) CONTROLLED AIR FEED for drilling operations has same sensitive drilling action as electric feeds. Action is controlled by manually activating precision Beckett Hi-Cyclic Air Valve. Standard and heavy-duty models have same stroke and max. thrust as electric models described above. Super-accurate depth control and automatic dwell.

GEARED HEAD AIR FEEDS. Mechanically or electrically controlled. Beckett Geared Air Feeds provide either greater drill point thrust with shorter stroke, or a longer stroke at reduced thrust, than the feeds described above, *without adding to length of power transmission arm.* Outside gears are pick-off type and interchangeable. Stroke and thrust can range from 8" stroke at 625 lbs. max. thrust, to 2" stroke at 2500 lbs. max. thrust, on 1¼" pinion shaft at 100 psi.



HYDRAULIC FEEDS FOR AUTOMATING LARGER DRILL PRESSES.
Here is a complete hydraulic power package that can be *tailored* to your drill presses and your work requirements. Drill point thrust in excess of 5000 lbs. is obtainable on most equipment, as are approach speeds of 1" per sec. Feed speed is infinitely variable. Unit consists of heavy-duty power transmission arm and portable console housing control valves, hydraulic pump and tank.

GET FULL DETAILS TODAY.
WRITE FOR NEW CATALOG FM-60.

NFPA MEMBER

BECKETT-HARCUM CO.
991 W. LOCUST STREET, WILMINGTON, OHIO

For more details circle NED-143 K on enclosed inquiry slip

Now, with more than fifty models in the Dustkop line—plus efficient accessory items—the odds are that a standard unit will solve your problem. Dustkop units solve other problems too. They're easier to install, save space and money and are virtually maintenance-free!

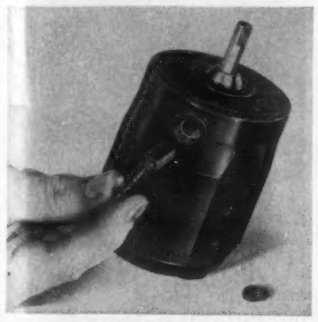
how to select a dust collector

This new brochure includes all basic information needed to select the right dust or mist collector for grinding, buffing, polishing and other types of service. Write for your copy. No obligation.

AGET Manufacturing Company
1396 Church St., Adrian, Michigan
DUSTKOP STOPS DUST

▲ For more details circle **NED-144 K** on enclosed inquiry slip ▲

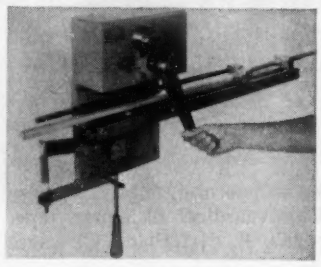
FHP ELECTRIC MOTORS
have externally removable brushes



Externally removable brushes facilitate replacement on TW Series fractional horsepower electric motors, suitable for air conditioning, compressor, and marine OEM applications. The low-cost motors are available with series, shunt, or compound windings for 6 to 115 v ac and dc and 1/125 to ¼-hp ratings. Individual features available include reversable windings, double shaft extension, ball bearings, special shaft details and end frames, and alternate lead positions. Motors weigh from 2 lb 4 oz to 4½ lb, depending on horsepower. • Redmond Co., Owosso, Mich.

▲ For more details circle **NED-147 K** on enclosed inquiry slip ▲

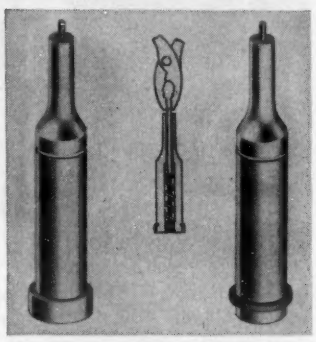
GRADUATION MARKER
makes calibration on tubing



Single rotation of the 8-in. diameter marking wheel of this marking machine provides fractional graduations on a 24-in. tube of aluminum, brass, or other metal. Tube is supported inside and out as the marking is applied, and marking depth is adjustable. Enclosed operating parts are accessible for servicing or marking wheel changing. • Acromark Co., 7-11 Morrell St., Elizabeth 4, N. J.

▲ For more details circle **NED-148 K** on enclosed inquiry slip ▲

EJECTOR PUNCHES
are sharpened with pin removed



Sharpening of Pull-Pin ejector punches is simplified by removing the ejector pin with pliers prior to grinding. Removal of the stripper plate is not necessary, because it is depressed to clear punch points. Pin is simply pushed back in when sharpening is completed. The distance the pin extends is set automatically. Pull-Pin ejector punches of M-2 Hi-Speed steel are available in all point shapes, head or ring types, with diameters from 3/16 to 1 in. • Producto Machine Co., Ring Punch & Die Div., 28 Fenton Place, Jamestown, N. Y.

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INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

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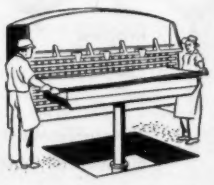
Lift it the low-cost way
WITH DEPENDABLE HYDRAULIC POWER

Load trucks from floor level . . . no dock needed

Move traffic from one floor level to another

Rotary Levelator Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.



Feed machines, perform other industrial lifting jobs

Rotary® Levelator® Lifts
ROTARY LIFT COMPANY
Division of the Dover Corporation
1178 Kentucky, Memphis 2, Tenn. • Chatham, Ont.

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Piggy Back Air Control

- Saves Space
- Improves Control
- Simplified Installation

This compact "3 in 1" combination Air Regulator, Filter, and Lubricator requires a minimum of space and installation work . . . and delivers a maximum of protection against damage to costly air tools.

The balanced piston Regulator permits instant response to load changes . . . automatically bleeds off . . . and serves as a shut-off valve. The cyclone action of the Filter and its throwaway type filter element remove water, oil, and dirt. The Lubricator is adjustable, to automatically meter a fine oil mist in direct proportion to the volume of air being used.

Available in stock in ¼" through ¾" NPT. For a complete line of air controls and quick disconnects write for Bulletin 80.

"WHERE *Good Connections* COUNT"®
PERFECTING SERVICE CO.
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Baltimore - Buffalo - Camden, N. J. - Chicago
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2 NEW BREAKTHROUGHS

STANLEY®

STANLEY ALL-PURPOSE SAW
with 5 assorted blades—only $89.50

- **Multi-directional cutting**—slices through metal, wood, plastics, plaster . . . practically *anything sawable!*
- **Only saw of its type**—*designed* to cut flush to any vertical or horizontal surface without additional attachments!
- **Two speeds**—easier to cut metal or wood with maximum speed. 6 mounting positions for blades lets you *cut in any position from any spot!*
- **Auxiliary handle positions**—5 in all, for surest grip, leverage. Switch handle contoured for comfortable use, hour after hour!

Also available as a convenient kit that includes saw and 8 blades in sturdy metal carrying case $99.50

Ask your Stanley Distributor about these great new tools—latest additions to the line of Stanley industrial tools. For complete specifications, write:

STANLEY ELECTRIC TOOLS
Division of The Stanley Works
Dept. 5810
New Britain, Connecticut

STANLEY IMPACT DRILL
only $375 with metal carrying case

- **Disintegrating, non-destructive** action assures clean, precise cuts without chipping, uneven edges. Little or no spalling at end of cut!
- **Easy handling**—weighs only 25 lbs. Easy to carry, too, for one-man operation.
- **Cuts openings from 3/16" to 4".** Eliminates need for costly compressors and heavy drilling rigs!
- **Drills steel-reinforced concrete,** rock, brick, masonry tile, granite, slate. 16,000 to 22,000 impacts per minute!

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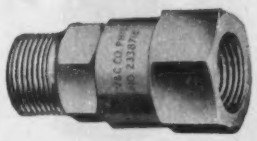
▲ For more details circle **NED-152 K** on enclosed inquiry slip ▲

KEEPS HOSE FREE from Harmful Twists and Kinks



"DIXON" SWIVEL CONNECTION

Used on end or intermediate connections this practical I.P.T. fitting eliminates twisting and kinking in hose in sizes up to ¾" I.D. Turns freely and remains leakproof under pressure. No parts to get out of order. Steel, cadmium plated.

ORDER FROM YOUR DISTRIBUTOR

DIXON Valve & Coupling Co.

GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING, LTD., TORONTO

ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC., QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

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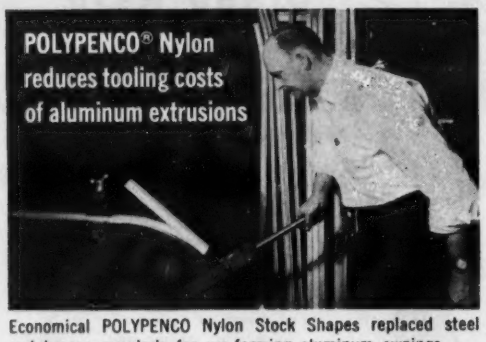

Economical POLYPENCO Nylon Stock Shapes replaced steel and bronze mandrels for pre-forming aluminum awnings . . . at considerable savings.

Steel mandrels eventually took a set while bronze picked up aluminum and caused galling. Both problems were solved with tooling made from POLYPENCO Nylon 101.

Tough, wear resistant nylon will not gall or scratch mating surfaces. Low surface friction without lubrication, resilience and ease of fabrication give you longer part life, improved quality and lower costs.

POLYPENCO Nylon Stock Shapes (600 sizes in more than 14 nylon formulations) are available from stock in all major cities. For details call your nearby Polymer representative.

POLYPENCO INDUSTRIAL PLASTICS

The Polymer Corporation of Penna.
Reading, Pa.

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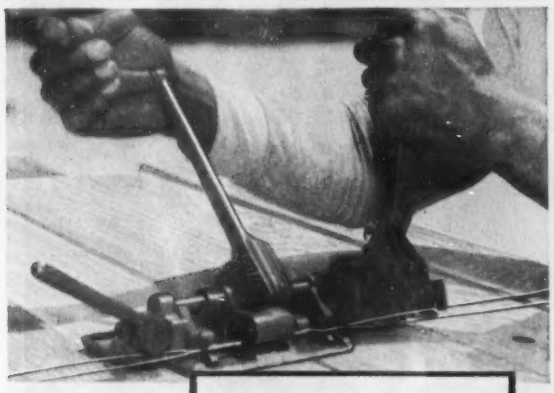


NOW!
Save 50-80% on strapping

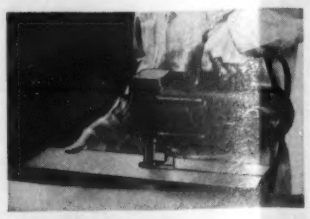
Twice as much for the money . . . Oval steel strapping gives you high tensile strength . . . a greater lineal feet per pound yield. Countless users have cut their strapping costs 50 to 80%. *Easier to use.* Just *one* tool to tension, twist and cut the strapping. You save time, manpower and equipment investment. *Full details.* Circle the reader service card, or write:

A.J. GERRARD & COMPANY / STRAPPING MATERIALS

410 East Touhy Avenue • Des Plaines, Illinois

▲ For more details circle NED-156 K on enclosed inquiry slip ▲

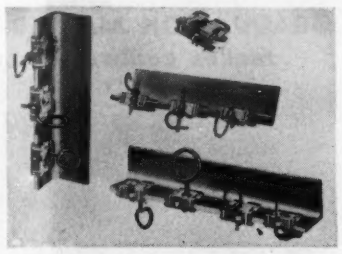
PORTABLE NIBBLER
cuts through ¼-in. steel at 35 ipm



Cutting capacity of Model EHN portable hand nibbler is ¼-in. hot or cold rolled steel plate and up to 5/16 in. aluminum. The lightweight tool cuts at a speed of 35 ipm with a punch and die action and will handle minimum cutting radius of 8 in. It is powered by a 2½ hp ac-dc motor and operates on 115 v, 60 cycles. Rotating parts operate on antifriction bearings. Nibbler weighs only 20 lb and measures 13½ in. over-all. • **Fenway Machine Co.**, 1910 N. Marshall St., Philadelphia 22, Pa.

▲ For more details circle NED-157 K on enclosed inquiry slip ▲

UNIVERSAL BEAM CLIPS
for supporting wires and tubing



Used with threaded or unthreaded bridle rings, drive rings, and other low voltage cable, wire, and copper thermostatic tubing supports, B-Beam clips will withstand up to 30-lb horizontal and 50-lb vertical pull. They will securely grip any flange from ⅛ to ½ in. thick, regardless of flange taper. • **Erico Products, Inc.**, 2070 E. 61st Place, Cleveland 3, Ohio.

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POWER FLOOR SWEEPER
covers over 40,000 sq ft per hour

Congested factory areas, warehouse aisles, and parking lots are applications for the improved Model 703 power floor sweeper. Its 5¾-hp engine is 45 per cent larger for efficient operation with heavy hopper loads and on steep inclines. A larger muffler reduces engine noise by one-half, and a water muffler is optional. Other improvements include externally mounted oil-filled air cleaner, dual traction and broom drive belts, optional LP-gas kit with 8-hr running cycle, heavy wrap-around bumper, and synthetic brushes with long service life over a −65 to 250° F range. Sweeper will clean over 40,000 sq ft per hour. • **Wayne Mfg. Co.**, 1201 E. Lexington Ave., Pomona, Calif.

▲ For more details circle NED-159 K on enclosed inquiry slip ▲

INKS FOR INDUSTRIAL USE . . . .LIQUID and PASTE types

ACRO INKS come in liquid and paste form for use in hand or platen type printing machines and applications. Acromark makes "ink fountains" too for paste or liquid inks.

All ACRO INKS are specially formulated by our chemists to suit your specific need. Acromark "standards" are other ink manufacturers' "specials".

PRINTING MACHINES by ACROMARK are varied types to mark manufactured products.

Write for 1960 PRINTING MACHINE and INK Catalog

ACROMARK
THE ACROMARK COMPANY
7-11 MORRELL ST., ELIZABETH, NEW JERSEY
"The Original Marking Specialists"

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BEVERLY POWER

EFFICIENT EASY TO USE

Slitting Shear

Designed to Provide:
- Fast, Clean Accurate Slitting
- Quick, Easy Set-ups to Desired Cutting Widths
- Enclosed Direct-Drive for Safe, Sure Cutting

3 Sizes: Capacity of 10, 14 and 20 ga. in mild steel

The extra-rigid, easily adjusted Back Gauge of the Beverly Power Slitter provides a positive stop and a solid base for the sheet as it moves through the machine. The Gauge can be quickly removed to leave the shear's deep throat open for free-hand slitting if desired. Spring-loaded Sheet Retaining Roller and channeled Back Gauge Slide Bar keep sheets in proper alignment for straight, accurate cutting.

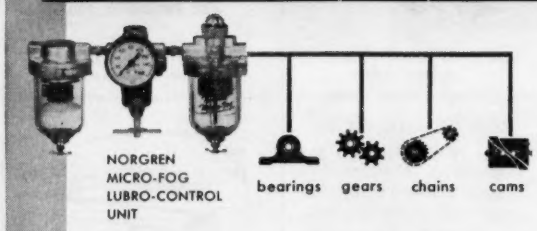
Easy-to-read etched scales on either side of machine permit direct reading and quick setting to cutting width. Two reversible, interchangeable chrome cutters are direct-driven through steel shafts to assure safe, positive operation.

See your nearby Beverly Distributor
Write for catalog sheet and complete details

BEVERLY SHEAR MANUFACTURING CO.
3016 W. 111th Street • Chicago 43, Illinois

▲ For more details circle NED-161 K on enclosed inquiry slip ▲

Automatic lubrication for every bearing surface on a machine...



A Norgren Micro-Fog Lubro-Control Unit automatically and continuously applies an exactly metered amount of fresh, clean oil to every bearing, gear, chain drive or cam on a machine. Oil feed is visible and easily adjustable.

WRITE FOR DESCRIPTIVE LITERATURE

C. A. NORGREN CO.
3405 SO. ELATI STREET • ENGLEWOOD, COLORADO

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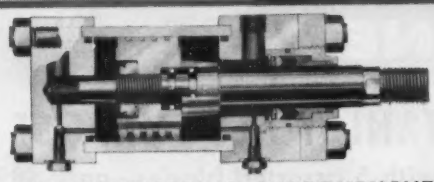
EXCLUSIVE WITH CARTER

Rod Scraper Plus Rod Wiper in Cartridge Rod Bearing! 100% J.I.C. INTERCHANGEABLE CYLINDERS

SQUARELINE 2000-3000 PSI HYDRAULIC



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- 1½ to 12" Bore Sizes
- Complete Range of Mounting Styles
- True Quick-Change Cartridge
- Self-aligning Truly Concentric Cushions
- Extra Heavy Construction
- Precision Engineered

• ASK FOR SQUARELINE BULLETIN 3000 or complete bound file. Air and hydraulic cylinders. Rotaries, clamp cylinders, air valves, and the new SQUARELINE. Complete details and prices. SEND TODAY.

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TELETYPE LSNG, ILL. 1119

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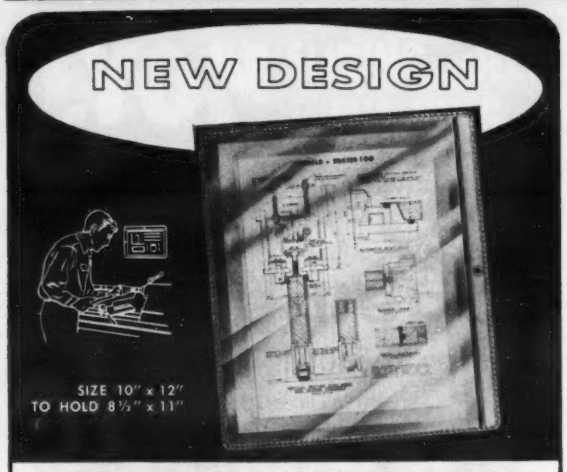
NEW DESIGN



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Electronically Heat Sealed Edges

INTRODUCTORY OFFER SENSATIONAL LOW PRICE! 15¢ EACH MINIMUM 100 FOB FACTORY

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415 EAST WASHINGTON BLVD., LOS ANGELES 15, CALIF.
RICHMOND 7-5329

▲ For more details circle NED-164 K on enclosed inquiry slip ▲

SKINNER heavy-duty independent chucks designed for accuracy and long service

- FORGED STEEL BODY
- LARGE DIAMETER OPERATING SCREWS
- HARDENED STEEL SOLID THRUST BEARINGS
- ACCURATELY GROUND, HARDENED JAWS

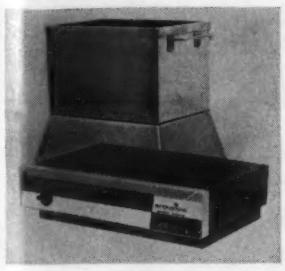
Additional features for rugged service are wider jaws, T slots, and specially designed bearings. When top jaws are removed master jaws are below the face so that the chuck can be used as a face plate for clamping work. These chucks are furnished in sizes from 12" to 28" and mount directly on American Standard Spindles and by means of separate adaptor plates on threaded spindle noses.

For more information about this and other major chuck developments, contact your Skinner Representative or write us at Department 560.

SKINNERCHUCKS
THE CREST OF QUALITY
THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT, U.S.A.

▲ For more details circle NED-165 K on enclosed inquiry slip ▲

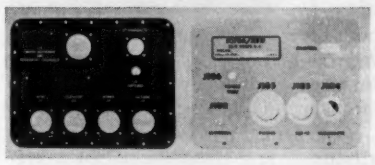
ULTRASONIC CLEANERS
simple units have automatic tuning



Miniaturized 20-kc ultrasonic cleaners utilize a new semiconductor circuit in a different operating principle to eliminate all adjustments and meter readings. Peak performance is obtained from each Multipower transducer used in a cleaning tank. Systems are activated by transistorized electronic generators which feature automatic tuning for maximum cleaning power at a constant rate. Units react instantly and automatically to compensate for changes in both lead and liquid levels. Line is priced from $835 to $2545, including a stainless steel tank, and provides 250 to 1000-w power in unit combination. Systems rated up to 25,000 w employ the transistorized generators in modular form. • **Acoustica Associates, Inc.,** 10400 Aviation Blvd., Los Angeles 45, Calif.

▲ For more details circle NED-167 K on enclosed inquiry slip ▲

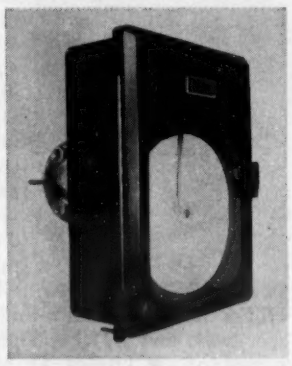
INSTRUMENT PANELS
standard and custom units offered



Any size or quantity of finished instrument panels in standard or custom styles are now available. They can be painted, finished, engraved, or silk-screened. Last service includes silk screening on wrinkle finishes and on cylindrical shapes. Using pantograph engraving machine, panel designations and calibrations down to 1 min are possible. Any color can be provided. • **Zero Mfg. Co.,** 1121 Chestnut St., Burbank, Calif.

▲ For more details circle NED-168 K on enclosed inquiry slip ▲

FLOW RECORDER
for static and differential pressure



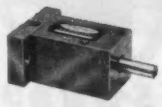
Primarily intended for the measurement and recording of differential pressure, the Model 202A flow recorder has provision for adding two pens for temperature and static pressure recording. It uses the Barton 199 rupture-proof meter body and is available with either the Barton or Foxboro time arc. Recording is on a standard 12-in. diameter round chart. • **Barton Instrument Corp.,** 580 Monterey Pass Rd., Monterey Park, Calif.

▲ For more details circle NED-169 K on enclosed inquiry slip ▲

Modernair

CLAMP Type Air CYLINDERS

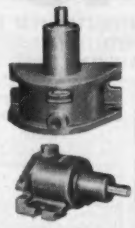
-a size and type to meet your needs



SERIES 800 — 1⅛" bore

Rectangular body, flat base for easy mounting, vertically or horizontally.

Model 800-1 (1" stroke) $8.50
Model 800-2 (2" stroke) $9.75



SERIES 900—2", 3" and 4" bore

Cast aluminum body with both horizontal and vertical mounting pads; slotted holes for easy positioning. Available in 1" and 2" stroke lengths.

Model	Bore	Stroke	Price
921	2"	1"	$16.00
922	2"	2"	19.00
931	3"	1"	23.50
932	3"	2"	26.50
941	4"	1"	47.50
942	4"	2"	51.50

Modernair offers the industry's most complete line of air cylinders and valves for shop and plant use. Write today for free catalog, price list.

Modernair CORPORATION
Industrial Products Division Dept. 76
400 Preda Street, San Leandro, California 55

▲ For more details circle NED-170 K on enclosed inquiry slip ▲

BOSTITCH
GOLDEN BELT
BOX BOTTOMING STAPLER

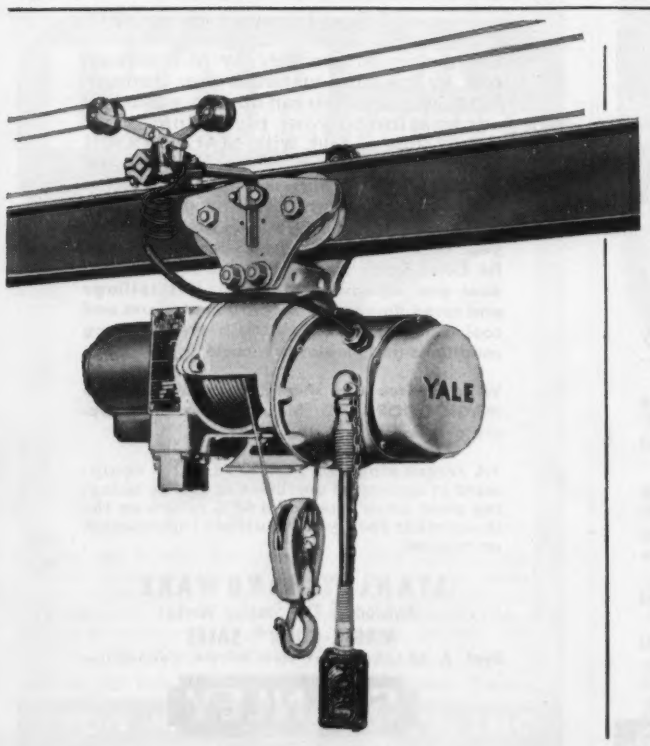
- 4000 continuously fed, copper finished, wide-crown staples permit bottoming 1000 to 2000 boxes without reloading.
- Entire length of most boxes can be stapled in one straight pass through the machine because of deep 24-inch throat.
- Golden Belt staples have 1½" crown width, leg lengths of ½", ⅝" or ¾" and they comply with rule 41 and all parcel post and overseas shipping regulations.
- Eliminates as much as 75% of reloading time.

Cut box bottoming costs. Have a Bostitch Economy Man—one of 350 working out of 123 U. S. and Canadian cities—show you how the Golden Belt can fit in your shipping room. An office near you is listed under Bostitch in your phone book. Call or circle our number on the Reader Service Card to receive free brochure.

Fasten it better and faster with BOSTITCH STAPLERS AND STAPLES

690 Briggs Drive, East Greenwich, R. I.

▲ For more details circle NED-171 K on enclosed inquiry slip ▲



TOP PERFORMANCE WITH LONG-RANGE ECONOMY

YALE LOAD KING ELECTRIC HOIST

Meets the need for a small, strong, work horse hoist • Fast, positive starting and stopping • Maximum safety with TWO independent brakes plus upper and lower safety limit stops • Hoisting speed ranges up to 41 FPM • Accurately inches and spots loads with driftless braking • Triple reduction gear train provides sturdy, dependable lifting • Choose wire rope models ¼ to 1½ ton capacity or chain models ¼ to 2 ton capacity.

Contact your Yale distributor. Or, write for brochure #1538D to The Yale & Towne Manufacturing Company, Yale Materials Handling Division, Philadelphia 15, Pa. Dept. W-018A.

Yale Materials Handling Division, a division of The Yale & Towne Manufacturing Company. Manufacturing Plants: Philadelphia, Pa., Forrest City, Ark. Products: Gasoline, Electric, Diesel, and LP-Gas Industrial Lift Trucks. Worksavers • Warehousers • Hand Trucks • Industrial Tractor Shovels • Hand, Air, and Electric Hoists.

YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS
YALE & TOWNE

▲ For more details circle NED-166 K on enclosed inquiry slip ▲

NEW, IMPROVED KANT-SLAM HYDRAULIC DOOR CHECK

STOPS SLAMMING DOORS!

CLOSES Large or Small Doors, Screen Doors and Gates—Easily, Gently, Smoothly

STOPS Slamming... Banging... Broken Door Glass... Insects... Drafts... Heat Loss

$10.95

KANT-SLAM closes doors with efficiency of human hand. Hydraulic action—NOT an air check—piston works in oil. **New! Improved packing for smoother-than-ever, more efficient operation!** 3 years' trouble-free service guaranteed. Price about half of other hydraulic controls.

Works any place along hinge side of door—top, middle or bottom—either right or left hand doors. KANT-SLAM is completely self-contained—door and hinges are absolutely free of any strain or pressure. Holds door open when past 90 degrees. Only one size Check required—three sizes easily detachable springs available for various size doors. Simple screw adjustment for closing speed.

Order on 30 Days' FREE TRIAL at $10.95 f.o.b. Bloomfield, Ind., or write for complete details.

KANT-SLAM DOOR CHECK CO.
470 W. Spring St., Bloomfield, Indiana

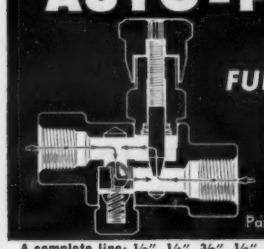
ATTRACTIVE DARK BRONZE METALLIC LACQUER FINISH HAMMERED BRONZE EFFECT

Used by Hundreds of Nationally-Known Firms
Oak Ridge Atomic Energy Plant, University of North Carolina, Great A. & P. Tea Co., United States Steel Co., General Electric Co., Rutgers University, Northrop Aircraft, Fuller Brush Co., Carnation Co., Shell Oil Co., Kraft Foods.

▲ For more details circle NED-172 K on enclosed inquiry slip ▲

AUTO-PONENT®

HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841,174

A complete line: 1/8", 1/4", 3/8", 1/2", and 3/4" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

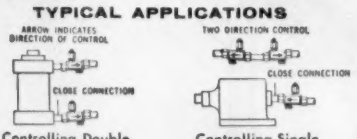
Model F Standard Flow Control Valve or Model N Needle Valve

Model KF Knob and Dial Flow Control Valve or Model KN Needle Valve.

Model PF Knob and Dial Flow Control Valve or Model PN Needle Valve for panel mounting.

Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS



Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTOMATION AUTO-PONENTS INC. COMPONENTS ® **2929 GRANT STREET** BELLWOOD (Chicago Suburb) ILLINOIS

▲ For more details circle NED-173 K on enclosed inquiry slip ▲

BEACON'S

New Process*
Creates Durable Fibreboard Tote Boxes That Are

- AMAZINGLY RIGID
- FIREPROOF
- TARNISH PROOF
- LIGHTWEIGHT
- ECONOMICAL
- SPACE SAVING

Nesting & Shelf Styles Also Available

Write For Free Sample

*Patented

BEACON BOXES, INC.
P. O. Box 483 I
Massillon, Ohio

▲ For more details circle NED-174 K on enclosed inquiry slip ▲

VACUUM ATMOSPHERE UNIT for processing small parts

Self-contained equipment for processing small parts in a vacuum or protective atmosphere includes all components and controls necessary for operation. It consists of a furnace equipped with all electrical components and an automatic controller, a 4-in. ID alloy retort for operation to 2250° F at a vacuum level of 0.5 micron, a water jacketed cooling chamber, and a vacuum pumping system and vacuum gage. • **Lindberg Engineering Co.**, 2444 W. Hubbard St., Chicago 12, Ill

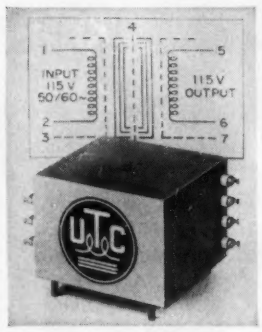
▲ For more details circle NED-175 K on enclosed inquiry slip ▲

ENGINE TEMPERATURE CONTROL adjusts radiator shutters

Automatic adjustment of radiator shutters on truck and stationary engines is provided by the Thermomotor, a self-powered temperature modulating unit. Operated by a thermostat, it maintains a constant engine coolant temperature within ±2° F. It will deliver 100 lb of force with 1½ in. of travel of a 3-in. lever arm. Device has a corrosion resistant aluminum housing and is unaffected by vibration. Installation requires only intake and outlet connections. Any setting is obtained by changing the inexpensive internal thermostat. • **Dunlap Mfg. Co.**, Box 15-668, Tulsa, Okla.

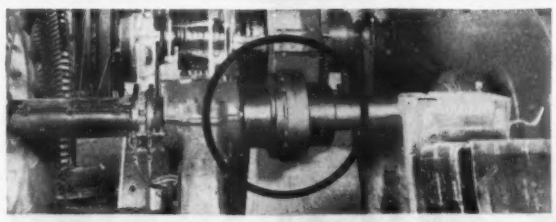
▲ For more details circle NED-176 K on enclosed inquiry slip ▲

ISOLATION TRANSFORMERS simulate battery operation



Critical circuits requiring isolation for power line equipment are applications for these ultrashielded isolation transformers, designed to simulate battery operation. They are hermetically sealed to MIL-T-27A specifications and have an effective capacity coupling between primary and secondary windings of less than 0.1 mmfd. Input and output terminals on opposite sides maintain isolation. Type HIT-1, HIT-2, and HIT-3 have industrial ratings of 60, 250, and 600 w, respectively, and a 115 v, 50/60 cycle primary and 115 v secondary. • **United Transformer Corp.**, 150 Varick St., New York 13, N. Y.

▲ For more details circle NED-177 K on enclosed inquiry slip ▲



"Most Trouble-Free Heavy-Duty Couplings We've Ever Used"

This is a typical report received from users of Lovejoy Types C and H Heavy-Duty Flexible Couplings... and they give many reasons why:

- Easily installed and aligned in minutes, using only a straight edge.
- Completely unaffected by dirt, dust, mud, water and weather.
- Lubrication-free and uncomplicated by mechanisms that require frequent adjustment and maintenance.
- Cushions can be removed without disturbing the line and advanced or reversed on non-reversing loads for double life.
- Metal jaws never wear out because service rated cushions transmit the load.

Lovejoy Heavy-Duty Couplings are available in a full range of bore sizes and types at ratings to 4250 hp. (1200 rpm.). Request full information on the size and type best suited for your job. Ask for Catalog C-58.

LOVEJOY FLEXIBLE COUPLING CO.
4803 WEST LAKE STREET, CHICAGO 44, ILLINOIS
Telephone EStebrook 9-3010 • Teletype TWX-CG-85

▲ For more details circle NED-178 K on enclosed inquiry slip ▲

Togetherness

matters with industrial fasteners, too!

Togetherness, industrial style, has a special meaning at Thompson-Bremer because we are one of the few fully integrated manufacturers of Sems, lock washers, thread-cutting screws, terminals and cold-headed specialties. It means we can give you faster, more specialized service at competitive prices. You want your assemblies to go together economically and stay together reliably—that's what our EVERLOCK fasteners have been doing for our customers since 1918. Send for catalog and samples or call your EVERLOCK representative, and let's get together on your fastener needs.

AMF Everlock INDUSTRIAL FASTENERS

Thompson-Bremer & Co.
Dept. 34, 228 N. LaSalle St., Chicago 1, Ill.
Division of American Machine & Foundry Company

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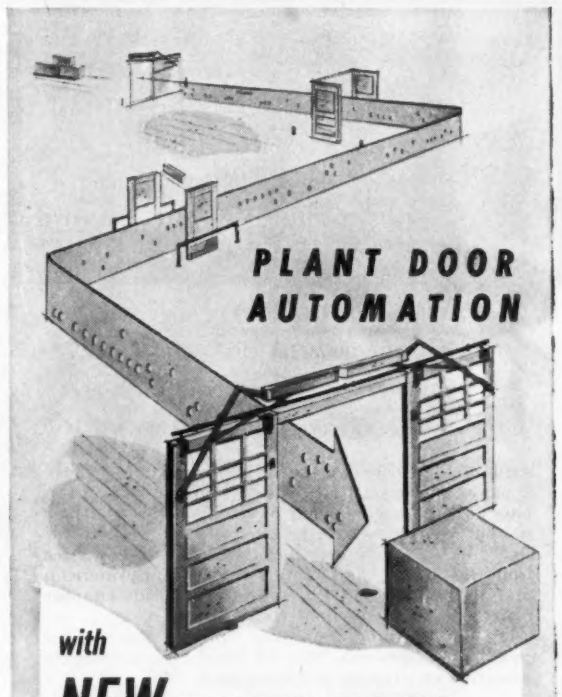

with

NEW MAGIC-DOOR MHO OPERATORS

*Low-cost investment... 67% return each year!**

Get maximum productivity at minimum cost by speeding materials flow throughout your plant. You can do it by extending automation to your plant doors that swing, slide or fold, with MAGIC-DOOR MHO Pneumatic Operators. Full powered for both opening and closing, MHO Operators will open and close your doors automatically and bring you BIG returns each year through these benefits: **controlled traffic flow; faster materials handling; reduced door and equipment damage; less spillage and cargo damage; conservation of warm and cool conditioned air, and improved working conditions and employee morale.**

Write for free data sheets and a folder on the MAGIC-DOOR MHO (Materials Handling Operators) line.

**A recent study of* MAGIC-DOOR *equipment in automatic operation of double swinging plant doors revealed a 67% return on the investment each year! Further information on request.*

STANLEY HARDWARE
Division of The Stanley Works
MAGIC-DOOR® SALES
Dept. J, 58 Lake Street, New Britain, Connecticut

STANLEY
REG. U. S. PAT. OFF

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LYON® SLIDING SHELF SHELVING

8 STANDARD SECTIONS

Adjustable to meet Specific Needs

Shelves slide into upright slots on 1½" centers and automatically lock in place. Flush front shelf boxes — adjustable dividers easily adjusted without nuts, bolts or springs. Sections are 37⅜" wide, 12-5/16" deep, 84" high. Durable steel finished in gray, green or taupe baked-on enamel. Units are shipped knocked down.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-181 K on enclosed inquiry slip ▲

SEALMASTER® "L" SERIES

A HIGH QUALITY LINE OF MALLEABLE HOUSED BEARING UNITS AND BEARINGS AT A COST THAT IS WARRANTED ON YOUR MACHINE!

- SELF-ALIGNING
- ONE-PIECE MALLEABLE HOUSING
- PERMANENTLY SEALED
- EASY RACE TO SHAFT LOCK

Available in pillow blocks and two or three bolt flange units for flush or recessed mountings. All units in the "L" Series available with the new SEALMASTER contact type seal.

LP PILLOW BLOCK — LFT FLANGE UNIT — LF FLANGE UNIT

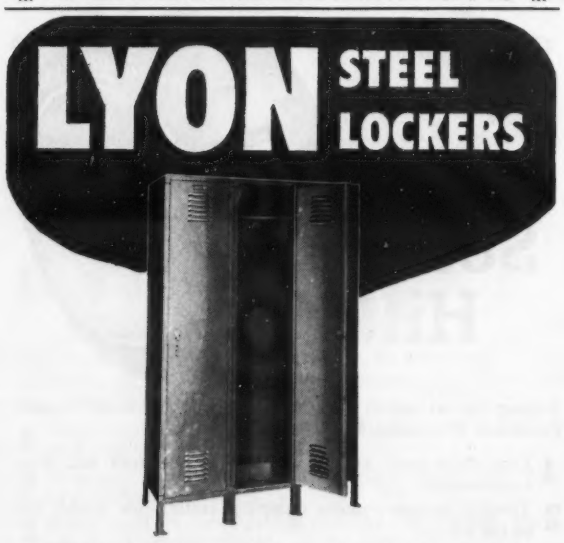
WRITE FOR BULLETIN 359

SEALMASTER BEARINGS
A DIVISION OF
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS
Plants Located in: Los Angeles, Calif. Clarksdale, Miss • Belleville, Ontario

SEALMASTER® BALL BEARING UNITS

▲ For more details circle NED-182 K on enclosed inquiry slip ▲

LYON STEEL LOCKERS



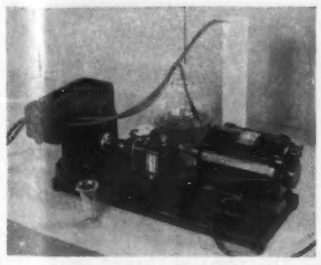
Lyon, the leading manufacturer of steel lockers, offers quality design features which really pay off. All-welded, rigid frame, positive locking action, heavy-duty hinges, streamlined, chrome finger-tip handle (patented). Many types of lockers—single, double, multiple tier, etc., meet every space and capacity requirement.

Write for free 92-page Lyon Steel Equipment Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-183 K on enclosed inquiry slip ▲

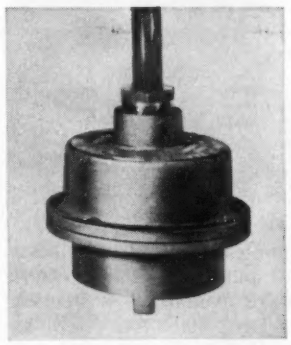
METERING PUMP
tube-squeezing type handles acids



Hypalon tubing with good resistance to heat, ozone, and oxidizing chemicals is used in Sigmamotor metering pumps, enabling them to handle sulfuric acid or other strong oxidizing agents. Liquid is forced through the tubing by wave-like action of steel fingers and never contacts any metal part of the pump. Capacities range from 0.5 cc to 4.5 gpm. Photo shows Model 6SH pump with motor and speed control. • **Sigmamotor, Inc.**, 33 N. Main St., Middleport, N. Y.

▲ For more details circle NED-184 K on enclosed inquiry slip ▲

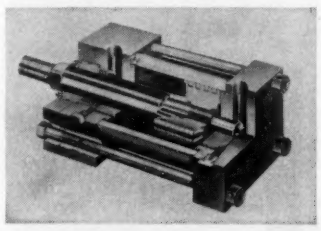
LIQUID LEVEL ALARM
sounds alarm or actuates equipment



As a normally - open switch, the improved Model 108C liquid level alarm goes into action as the level of water or other liquid rises. Air trapped in its skirt exerts pressure on a diaphragm that actuates the enclosed switch to sound an alarm or actuate pumps, valves, or warning lights. Unit is also available as a normally - closed switch. • **American Crucible Products Co.**, Kenco Pump Div., 1305 Oberlin Ave., Lorain, Ohio.

▲ For more details circle NED-185 K on enclosed inquiry slip ▲

HYDRAULIC CYLINDERS
1⅛ to 12 in. bores offered

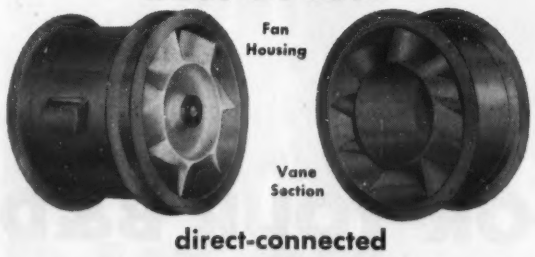


Improved C4H Series of 2000 to 3000-psi hydraulic cylinders in bore sizes from 1⅛ to 12 in. meets or exceeds JIC standards. Tie rod construction, long wearing rod cartridges, and four different piston packings for various applications are among features. Tapered cushions eliminate the need for cushion adjusting screws, provide gradual deceleration, and eliminate shock upon entrance of cushion piston. Micro-finished seamless cylinder tubes are sealed with O-rings located to eliminate extrusion. Teflon rod wipers keep rods clean and dry under maximum temperature and fluid conditions. SAE straight thread O-ring sealed ports are available at no extra cost. • **Sheffer Corp.**, 326 W. Wyoming Ave., Cincinnati 15, Ohio.

▲ For more details circle NED-186 K on enclosed inquiry slip ▲

another outstanding design development from

Aerovent



direct-connected

vaneaxial fans
with removable vane sections

Engineered for high-pressure, high-velocity air distribution systems, these units feature a unique removable vane section which simplifies installation and permits easy access for routine cleaning and maintenance.

Available in 30 models in sizes 18" to 48" for capacities from 3230 to 67,300 cfm with special design features for all application requirements.

Write for Bulletin 475

Air deliveries of all Aerovent equipment are tested and rated in accordance with established and accepted codes and each unit is guaranteed by the manufacturer to deliver its rated performance.

CERTIFIED PERFORMANCE

Aerovent Aerovent FAN CO., INC.
ASH AND BLAKE STREETS PIQUA, OHIO

▲ For more details circle NED-187 K on enclosed inquiry slip ▲

Compare the resilient strength of Lyon *channel frame construction.* Compare Lyon functional beauty —backs and seats curved to match body contour — round, smooth edges and pinch-proof hinges.

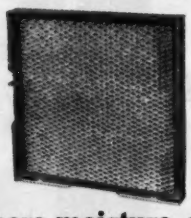
Millions of Lyon chairs are in use, all over the world, providing the utmost in comfort, safety and long life at the lowest possible cost.

Write for free 92-page catalog. Lyon Metal Products, Inc., 122 Monroe Avenue, Aurora, Illinois.

LYON® METAL PRODUCTS, INC.
DEALERS AND BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-188 K on enclosed inquiry slip ▲

Rugged new AAF filter for corrosive atmospheres



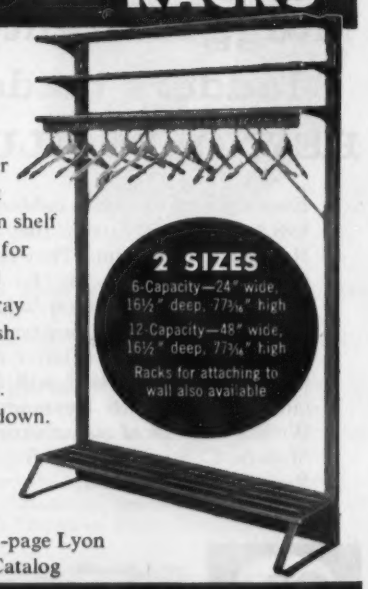
...where moisture, grease or acids are a problem

Corrosives don't have to cause air filter maintenance problems. Now, AAF's new Type AL-2 unit gives you a permanent aluminum filter that's completely resistant to damaging corrosive atmospheres. Just as important, this new lightweight, washable filter offers high cleaning efficiency and extra-large dust-holding capacity. Get all the facts about the new viscous-type AL-2 filter. Write for Bulletin 207. American Air Filter Company, Inc., 391 Central Avenue, Louisville, Kentucky.

AAF American Air Filter
BETTER AIR IS OUR BUSINESS

▲ For more details circle NED-189 K on enclosed inquiry slip ▲

LYON COAT RACKS



Sturdy, formed square tubular uprights, cantilever shelves. Upper hat shelves and bottom shelf are slot-ventilated for quick drying. Skid domes on base. Gray baked enamel finish. Furnished with hardwood hangers. Shipped knocked down.

2 SIZES
6-Capacity—24" wide, 16½" deep, 77¾" high
12-Capacity—48" wide, 16½" deep, 77¾" high
Racks for attaching to wall also available

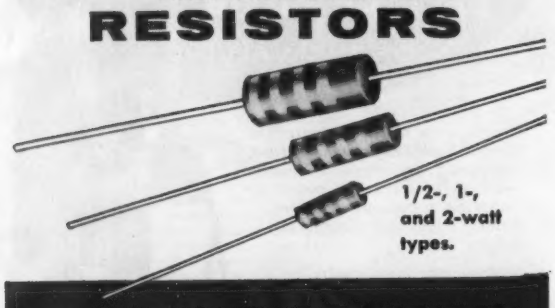
Write for free 92-page Lyon Steel Equipment Catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

▲ For more details circle NED-190 K on enclosed inquiry slip ▲

STACKPOLE Coldite 70+®

FIXED COMPOSITION
RESISTORS



1/2-, 1-, and 2-watt types.

★ Designed throughout for MIL-R-11 and other critical specifications. Unsurpassed stability.
★ Brighter phenolic bodies . . . baked-on colors.
★ Exclusive, solder-coated leads for fastest soldering—by dip or iron.
★ Stocked by many leading parts distributors.

ELECTRONIC COMPONENTS DIVISION
STACKPOLE CARBON CO., St. Marys, Pa.

▲ For more details circle NED-191 K on enclosed inquiry slip ▲

long, strong ...and easy to carry

Tilley aluminum extension ladder

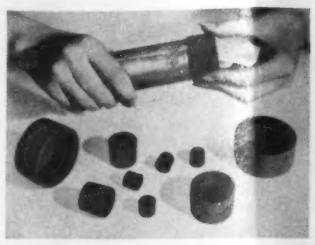
Rugged, lightweight ladders made with REYNOLDS ALUMINUM

Even the long extension ladders are no problem to move and carry if they're made with Reynolds Aluminum. They're strong, but they're light, too—easy for one man to carry. And an aluminum ladder gives you long-range economy, long-term service, because it won't rust, splinter or rot. For a lightweight ladder that will *last*, look for ladders made with Reynolds Aluminum. Write for names of manufacturers: *Reynolds Metals Company, P.O. Box 2346-NO. Richmond 18, Virginia.*

Watch Reynolds new TV show "Harrigan & Son", Fridays, starting October 7; also, "All Star Golf", Saturdays, resuming October 15—ABC-TV. And on Sunday, October 16, be sure to see the exclusive showing of America's new 1961 cars on The National Automobile Show, direct from Detroit over CBS-TV, 6 to 7 P.M. EDST.

▲ For more details circle NED-192 K on enclosed inquiry slip ▲

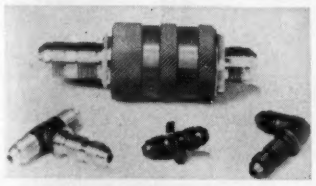
PLASTIC PIPE CAPS protect external threads, interiors



Made of tough polyethylene, series 600 plastic pipe caps are NEMA color coded for identification. Closures protect exposed external end threads on pipe and conduit and prevent internal contamination. Caps have a single internal thread and are easily applied by pushing onto the pipe. They assure protection during painting, dipping, and other processing and handling operations. Deep knurl aids removal by twisting. Caps are made for 1/8 to 2-in. nominal pipe and conduit sizes. • **Clover Industries, Inc.**, Dept. 60, 578 Young St., Tonawanda, N. Y.

▲ For more details circle NED-193 K on enclosed inquiry slip ▲

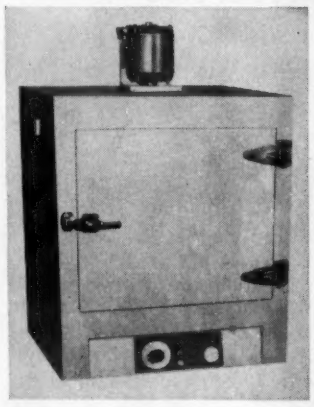
HIGH PRESSURE COUPLING for gas or fluid systems



Only one motion in the direction of flow is necessary to connect or disconnect this high pressure coupling. The push-pull coupling is applicable to high pressure gas or fluid systems and is available in stainless steel or aluminum. It functions at 3000-4000 psi and has a proof pressure of 6000 psi. Variety of sizes is available. • **Deutsch Co.**, Hydraulic Components Div., 7000 Avalon Blvd., Los Angeles 3, Calif.

▲ For more details circle NED-194 K on enclosed inquiry slip ▲

LABORATORY OVEN has three-heat range to 500° F



Chemical drying, plastic curing, sterilization, aging, finish baking, and analytical testing are among uses for the Model VU-5-33 forced convection laboratory oven. It provides automatic control over a three-heat range up to 500° F. The 20 x 16 x 18-in. oven has 3-in. glass fleece insulation, 16-gage steel exterior, 24-gage stainless steel interior, side-swing door, and a recessed control panel. Its 1/4-hp blower motor is mounted on top of the case. Price is $330. • **Despatch Oven Co.**, 619 S.E. Eighth St., Minneapolis 14, Minn.

▲ For more details circle NED-195 K on enclosed inquiry slip ▲

REPAIR FOR YOUR B&D TOOLS

Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. CO., Dept. 2910S, Towson 4, Md.

50th YEAR

Black & Decker®

QUALITY TOOL SERVICE

▲ For more details circle NED-196 K on enclosed inquiry slip ▲

SAVE ON
SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

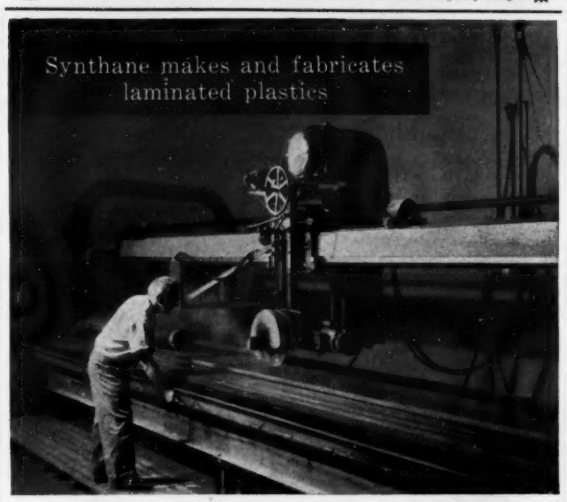
What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.

FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

▲ For more details circle NED-197 K on enclosed inquiry slip ▲



"Do-it-yourself" fabrication of plastic laminates seldom pays

This "long-length" saw is just one of the many good reasons why it rarely pays to machine laminated plastics yourself. It saws sheets over 25 feet long in one pass.

Special machines of this type—and we have many of them—make first class work reasonable, yet they can only be justified by volume production such as ours. Write for "Laminated Plastic Parts—Make or Buy?"

SYNTHANE CORPORATION
N.E. RIVER ROAD, OAKS, PENNA.
Sheets • Rods • Tubes • Fabricated Parts
Molded-laminated • Molded-macerated

SYNTHANE

▲ For more details circle NED-198 K on enclosed inquiry slip ▲

GOODYEAR

Solid Hit!

Rolling up savings in the toughest shop service are rugged Goodyear Pressed-on Solid Tires. Here's why:

1. Extra-thick tread cushions loads—reduces truck and floor maintenance.
2. Tougher rubber endures chipping, cutting—for longer life on the job.
3. Less friction, smoother starts, easier rolling, help conserve power.

Check your Goodyear dealer today for more facts on cost-cutting Goodyear Solid Industrial Tires. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from

GOODYEAR

More tons are hauled on Goodyear truck tires than on any other kind

▲ For more details circle NED-199 K on enclosed inquiry slip ▲

BRONZE BUSHED BEARINGS WITH PRECISION LINERS THAT ARE REPLACEABLE WITHOUT REMOVING SHAFT OR BEARING BASE!

Three types: Split Bronze Bushed Journal Bearings, 1-15/16" to 2-15/16"; Rigid Bronze Bushed Pillow Blocks, 3-7/16" to 8"; Angle Bronze Bushed Pillow Blocks, 1-15/16" to 8"; Ask your Dodge distributor or write to us for a bulletin.

Dodge Manufacturing Corporation, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

▲ For more details circle NED-200 K on enclosed inquiry slip ▲

Webster DIRECT READING HYDRAULIC TYPE **FORCE GAUGES**

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.

Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

▲ For more details circle NED-201 K on enclosed inquiry slip ▲

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

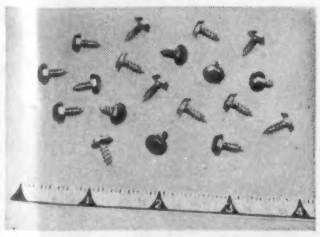
Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-202 K on enclosed inquiry slip ▲

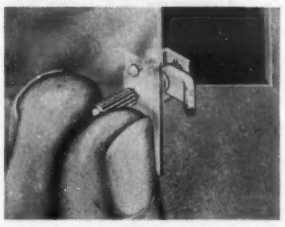
SELF-DRILLING SCREWS for use in aluminum members



Hard needle point of Uni-Point stainless steel screws eliminates need for predrilling holes in aluminum windows, doors, awnings, and other structural members. Screws can be driven into the metal with only slight pressure using conventional tools. They are offered in acorn washer, indented hex, Phillips, and slotted head styles in various sizes. ● **Universal Screw Co.**, 2401 Brummel Place, Evanston, Ill.

▲ For more details circle NED-203 K on enclosed inquiry slip ▲

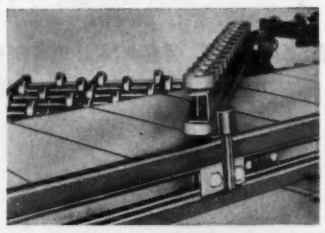
ADJUSTABLE PAWL FASTENER extends into enclosure only 15/32 in.



This small adjustable pawl fastener accommodates door or frame thicknesses from 11/64 to 19/64 in. and extends into the enclosure only 15/32 in. Knob extends out of panel only ½ in. Built for miniaturized housings and equipment panels, the No. 27 cadmium plated fastener mounts in two drilled or punched holes with bolts or rivets. One-quarter turn of knurled knob locks the fastener, and further turning tightens the door against vibration. ● **South Chester Corp.**, Southco Div., 200 Industrial Highway, Lester, Pa.

▲ For more details circle NED-204 K on enclosed inquiry slip ▲

METAL BELT CONVEYOR design permits lengths to 500 ft



Continuous Speedbar channel on both sides of the redesigned Armobelt unitized metal belt conveyor permits fastening of side tables, deflectors, electric controls, and other attachments at any point. Channel is also used to connect legs or ceiling supports at any position, also without drilling. The 12 to 36-in. wide zinc-coated steel belt resists oil solvents and corrosion. Gap between slats does not exceed 0.015 in. Standard 10-ft sections can be connected into a one-piece unit up to 500-ft long. Vertical curves of 5, 10, 15, and 20 degrees are used for multilevel conveying. Sprocket drive assures exact speed synchronization and automatic hold-back on inclines or vertical runs. Speed is 60 fpm and body depth is 4½ in. Legs or supports are placed on 10-ft centers. ● **M-H Standard Corp.**, 515 Communipaw Ave., Jersey City 4, N. J.

▲ For more details circle NED-205 K on enclosed inquiry slip ▲

GOODYEAR

Steel-armored against punctures!

For the tough jobs use STEEL GUARD—rugged new pneumatic tire with built-in puncture-barrier. Here's why:

1. Heavy steel cables crisscrossed beneath tread make tire virtually punctureproof.
2. Thick, sturdy tread absorbs punishing blows, insures better traction.
3. Pneumatic design means smooth ride for cargo and driver—plus stand-out stability and flotation.

Ask your Goodyear dealer about STEEL GUARD—it stands up even in foundry and brickyard service! Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

▲ For more details circle NED-206 K on enclosed inquiry slip ▲

FOR INDUSTRY OR HOME-CRAFT 8" TILT ARBOR SAW

BUY DIRECT FROM FACTORY

NOW $14.85 WAS $29.95

COMPLETE AS SHOWN—LESS BLADE

5/8" NEW DEPARTURE BALL BEARING SPINDLE PRECISION GROUND CAST IRON TABLE

Ideal for light factory work — excellent for the home workshop — that's the new Model 590B 8" TILT ARBOR SAW. Over 300,000 sold already! Does everything same as saws costing 4 times as much — cross cuts, rips, bevels, mitres, dadoes, cuts compound angles. Adjustable depth of cut: 0" to 2¼". Blade tilts to 45°. Heavy duty all cast iron and steel construction. Precision ground cast iron table. Sealed NEW DEPARTURE ball bearings never need lubrication. Price includes massive cast iron mitre gauge and patented motor drive that fits any motor. All parts and labor guaranteed 10 years.

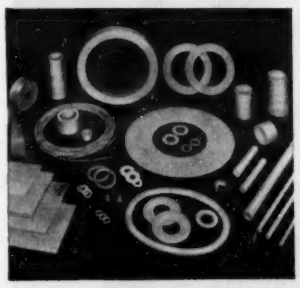
SPECIAL BARGAIN . . . This saw is our 1960 Model — *brand new* — shipped in factory sealed cartons. Sold and guaranteed from factory to you at fantastically low price.

MONEY BACK GUARANTEE . . . This saw and parts are guaranteed 10 years! Try it for 10 days. If not completely delighted — FOR ANY REASON — return for immediate refund. Order Model 590B. *SENT EXPRESS COLLECT—Send check or M.O. $3.00 deposits on C.O.D.'s • Open account to rated firms*

AMERICAN MACHINE & TOOL CO.
ROYERSFORD 74, PA.
Our 30th Year Manufacturing Quality Power Tools
Pennsylvania residents add 4% sales tax

▲ For more details circle NED-207 K on enclosed inquiry slip ▲

ENGINEERED PLASTICS



You'll benefit from Garlock's years of experience in injection molding, compression molding, extruding, punching, machining, and grinding of stock shapes and intricate parts. "Know-how" like this enables Garlock to recommend and furnish plastic materials exactly as you need them. Garlock offers a wide selection of shapes and parts—regardless of size, tolerance, or quantity—in Teflon* TFE, FEP . . . Nylon . . . Polychlorotrifluoroethylene (C.T.F.E.) . . . Delrin* . . . Polyethylene . . . Polypropylene. **Contact** one of Garlock's 26 sales offices and warehouses throughout the U.S. and Canada, or write for Plastics Catalog AD-177, Garlock Inc., Palmyra, New York.

GARLOCK

Canadian Division: Garlock of Canada Ltd.
Plastics Division: United States Gasket Company
Order from the Garlock 2,000 . . . two thousand different styles of Packings, Gaskets, Seals, Molded and Extruded Rubber, Plastic Products

*DuPont Trademark.

▲ For more details circle NED-208 K on enclosed inquiry slip ▲

GOODYEAR

Gives wear the air!

Pneumatic Industrial Tires by Goodyear carry key cargoes with care, yet stand up to punishing wear. Here's why:

1. Extra-tough tread rubber resists wear, insures long, dependable service.
2. Sidewall strength plus smooth ride assures safe haulage of "special handling" loads.
3. Stand-out stamina fights impact, bruising, with exclusive Triple-Tempered 3-T Cord.

Check your Goodyear dealer for full facts on the complete line of Goodyear Pneumatic Industrial Tires. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

▲ For more details circle NED-209 K on enclosed inquiry slip ▲

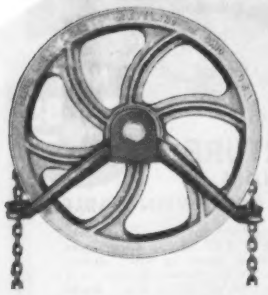
David Round

a large selection — uniform high quality

POCKETED CHAIN **SHEAVES** AND CHAIN GUIDES

Perfect Fitting Welded Chain For All Sizes

For light mechanical operation or heavy load control service



Light Duty Sheave No. 7-4
Chain Guide No. 7-4
Chain No. 120

Sheaves are supplied either with solid hub or bored and key-seated to specification.

Heavy-Duty Sheave No. PO-2
Chain No. 132-S

Write for Bulletin 77SH1

Order from your Distributor

Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO

▲ For more details circle NED-210 K on enclosed inquiry slip ▲

NEW!

biggest capacity 10″ saw made

SKILSAW Super Duty Model has full 3¾″ depth of cut!

If you don't think there's a big difference in saw capacities, try cutting 4-inch dressed lumber with any other 10-inch saw. The 860, with full 3¾-inch depth of cut, does it with blade to spare.

This super-duty, high speed saw is not only rugged as they come, it's the lightest 10″ saw made. Super safe, too, because of Skil's "Floating" Guards*. Both lower and upper guard automatically adjust to cover blade at every cutting depth. Vari-torque clutch protects against kickbacks.

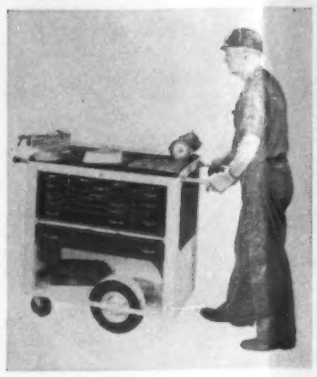
Ask your Skil distributor for a demonstration. Look under "Tools-Electric" in the Yellow Pages. Or write: Skil Corporation, 5033 Elston Avenue, Chicago 30, Illinois, Dept. 119J.

*Patent applied for

SKIL ...and SKILSAW POWER TOOLS

▲ For more details circle NED-211 K on enclosed inquiry slip ▲

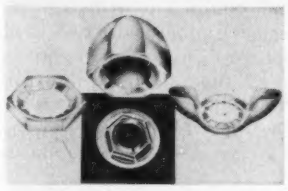
PORTABLE TOOL BENCH
has 22 interchangeable drawers



Capable of carrying 1500 lb of tools and equipment, the Senior four - wheel portable bench rolls smoothly over any floor surface, or over air hoses and curbs, to the job. It has a choice of 22 interchangeable drawers which may be locked, plus 24 small parts pockets. The 24⅛ x 44 3/16-in. top may be used as a workbench or to mount equipment such as vises, grinders, or drills. Made of welded steel sections, the 39-in. high unit is offered in four standard colors. Also available are the 18⅛ x 28 9/16 x 37-in. Junior model with 10 drawers and 24 small parts pockets and the 18⅛ x 36⅜ x 38-in. Middi model with 14 drawers and 24 pockets. • **Roll-On Mfg. Corp.**, 10021 S. Western Ave., Chicago 43, Ill.

▲ For more details circle NED-212 K on enclosed inquiry slip ▲

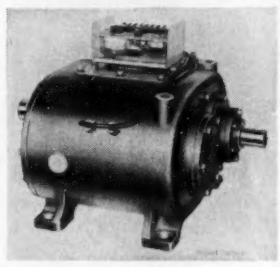
STAMPED NUTS
washer, acorn, regular, wing types



All popular sizes and finishes are available in four lines of low-cost stamped nuts. One-piece washer nuts, acorn nuts, regular nuts, and wing nuts are made of heat treated spring steel. They are also custom-made to specifications. • **Crest Products, Inc.**, Box 64, Union, N. J.

▲ For more details circle NED-213 K on enclosed inquiry slip ▲

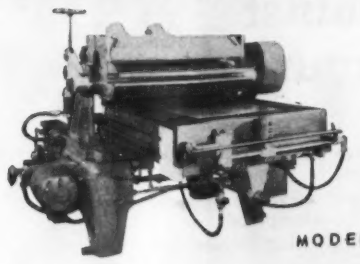
ELECTRIC TRANSMISSIONS
have electromagnetic clutches



Two to eight speeds, capacities from 52 to 750 lb-ft, and a selection of ratios up to 10:1 are provided by these electric transmissions. Built - in electromagnetic clutches provide speed changes and reversing under power without interrupting the power source. Manual or automatic control of speed changes is accomplished with electric switches, tape, cam, or other remote control means. Transmissions are suited for use with automatic machinery where they are not accessible to the operator. Model 14800-EC is shown with control box cover plate removed. • **Western Mfg. Co.**, 3400 Scotten Ave., Detroit 10, Mich.

▲ For more details circle NED-214 K on enclosed inquiry slip ▲

SATISFACTION ALWAYS
WITH CLAIR SURFACE FINISHING MACHINES



MODEL 303

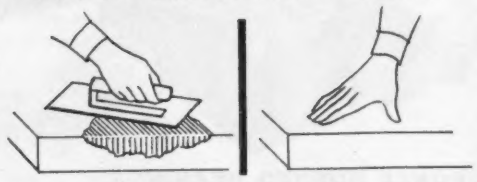
As holds for all TEN models, the table type design shown, incorporates the CLAIR quick-change spindles and the time-tested hydraulic and compressed air circuits. All Clair models are available with the wide choice of options which brings each Clair machine into specific conformance with YOUR individual requirements.

CLAIR MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

▲ For more details circle NED-215 K on enclosed inquiry slip ▲

NEW, QUICK, SURE WAY TO PATCH CONCRETE FLOORS



With new Thoropatch, you'll save time and money and get a solid, durable, renewed floor that doesn't look patched. No other cement patch can top these benefits to you:

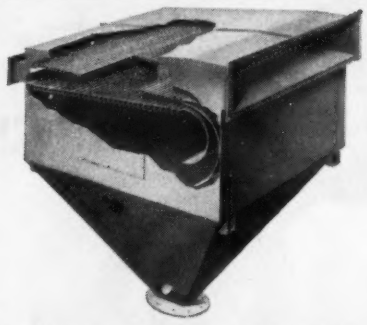
- Dries to natural concrete color.
- No crusting—curing is complete throughout.
- Highest compressive strength in its field.
- Excellent resistance to most industrial acids.
- Smooth, easy, non-stick troweling.
- Tough feather edges.
- Self curing—fast curing.

Don't accept inferior patching materials. If you do the job right the first time, you won't have to do it over. Standard Dry Wall Products Inc. has been a leader in masonry maintenance since 1912. Write for free Thoropatch brochure.

THOROPATCH

Standard Dry Wall Products Inc.
Box X-11, New Eagle, Pennsylvania

▲ For more details circle NED-216 K on enclosed inquiry slip ▲



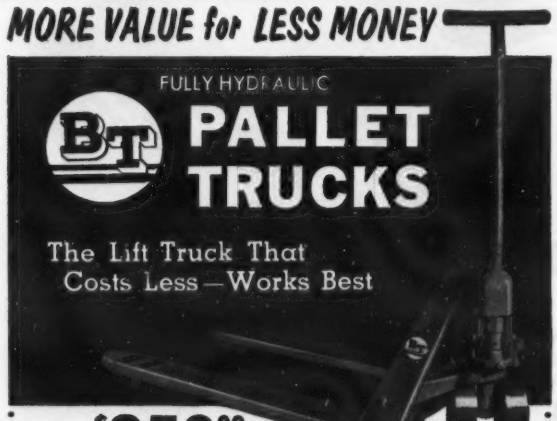
FLY ASH COLLECTORS
LOW COST...LOW DRAFT LOSS

Buell "LR" Collector stops 99% of fly ash larger than 100 mesh even on the smallest, natural draft boilers! No moving parts, no water, no maintenance except emptying the hopper. Easy to install on any boiler from 100 to 2000 BHP, natural or mechanical draft in new or existing plants. Send for bulletin on size selection and arrangement. Buell Engineering Company, Inc., Dept. 23-J, 123 William Street, New York 38, N. Y., Northern Blower Division, 6435 Barberton Ave., Cleveland, Ohio. BUELL-NORBLO Cyclones, Electric Precipitators, Bag Collectors, Combination Systems, Dry Classifiers, Fans, and Hopper Discharge Valves.

buell Norblo

▲ For more details circle NED-217 K on enclosed inquiry slip ▲

MORE VALUE for LESS MONEY



FULLY HYDRAULIC
BT PALLET TRUCKS

The Lift Truck That Costs Less—Works Best

Now Only $350.00 F.O.B. Chicago

Extra rugged construction for Heavy Duty use. Precision built, BT fork-type PALLET TRUCKS are fully hydraulic, easy to use, highly maneuverable. Pivots 90°, both directions. SKF ball-bearing wheels, (available in steel, rubber or Bakelite). For single or double face pallets and skids. Lowered Height: 3¼" - 5" Lift. A real buy.

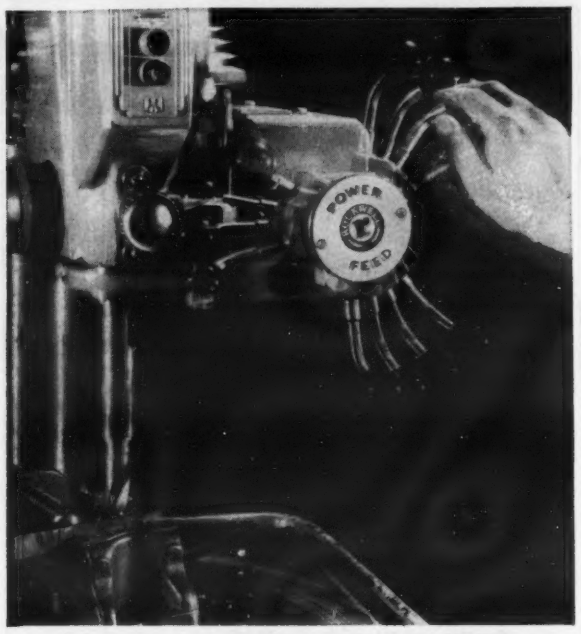
Model BT-24
2400 lb. Capacity.....$350.00
Model BT-44
4400 lb. Capacity ...$395.00

WRITE — WIRE — PHONE

YOUR CHOICE OF SIZES IN EITHER MODEL:
Fork Widths: 20½" or 27"
Fork Lengths: 36", 42" & 48"
(Specify width, length and wheel type when ordering)
(Dealer Inquiries Invited)

INDUSTRIAL HANDLING EQUIPMENT CO.
1221-23 West Monroe • Chicago 7, Illinois • MOnroe 6-8554

▲ For more details circle NED-218 K on enclosed inquiry slip ▲



NEW POWER FEED

DELTA 20" Drill Presses

Now Delta brings you advantages NEVER BEFORE AVAILABLE on a standard drill press —with the most advanced development in mechanical power feeds. Every model offers you:

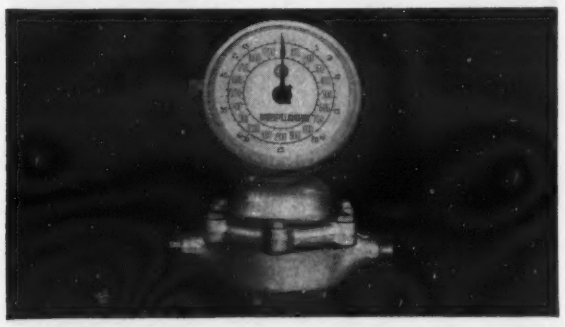
- Up-front control with one hand operation
- "Job tailored" drill point pressure
- Provision for interlocking with automation devices
- Built-in feature for remote control

These new Delta 20" Power Feed Drill Presses provide a simple, low cost method of increasing productivity and improving drilling quality. SEE YOUR DELTA INDUSTRIAL DISTRIBUTOR (listed under "TOOLS" or "MACHINERY" in the Yellow Pages) he'll gladly demonstrate these NEVER BEFORE AVAILABLE features and show you the new 20" line in floor, bench, overhead and multiple spindle models.

FREE BROCHURE with complete specifications and details, write: Rockwell Manufacturing Company, Delta Power Tool Division, 626K N. Lexington Avenue, Pittsburgh 8, Pa. In Canada: Rockwell Manufacturing Co. of Canada, Ltd., Guelph, Ont.

DELTA INDUSTRIAL TOOLS
another fine product by
ROCKWELL

▲ For more details circle **NED-219 K** on enclosed inquiry slip ▲



Introducing a

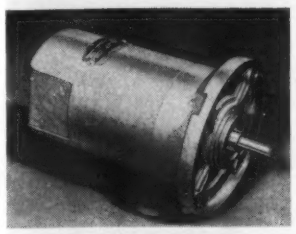
NEW, low cost industrial meter

Here's good news for industry. Mass production economies using multi-purpose materials have made possible this sturdy meter design which will handle up to 95% of all in-plant metering needs. It measures accurately over 300 liquids in all with the same simple construction. With it you'll save substantially on first cost and save for years by gaining accurate metered records of piped liquids. Available in sizes ½", ¾", 1", 1½" and 2" with your choice of non-reset, reset and vertical dial registers or electric alarm systems and impulse contactors. Write for bulletin PI-666. Rockwell Manufacturing Company, Pittsburgh 8, Pa. In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

INDUSTRIAL METERS
another fine product by
ROCKWELL

▲ For more details circle **NED-220 K** on enclosed inquiry slip ▲

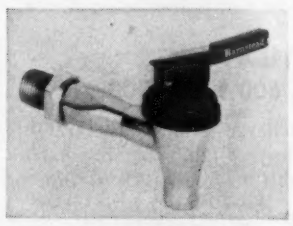
SERIES-WOUND MOTORS
for 115-v, 60-cycle ac service



Continuous duty ratings up to ½ hp at 5000 rpm and up to 1 hp at 10,000 rpm are offered in two Frame 3736 series-wound motors. They are designed for use in industrial vacuum cleaners, small winches, flexible shaft vibrators, and pipe threaders. The 115-v 60-cycle ac, ball bearing motors have end-to-end ventilation. Higher horsepower intermittent duty ratings and reversible rotation are optional. Housing length is 7⅛ in., mounting face diameter is 5½ in., and weight is 12½ lb. ● **Robbins & Myers, Inc.**, Universal Motor Div., 1345 Lagonda Ave., Springfield 99, Ohio.

▲ For more details circle **NED-221 K** on enclosed inquiry slip ▲

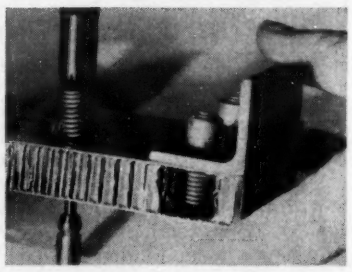
SELF-CLOSING FAUCET
silicone plunger prevents dripping



All materials in contact with distilled water or other liquids handled by this faucet are inert for purity protection. The faucet is self-closing when one side of its two-sided handle is used, and remains open when the other side is used. Made of break resistant plastic and nylon, it has a silicone plunger which eliminates dripping. Nylon, tin coated, and tin lined models are available. ● **Barnstead Still & Sterilizer Co.**, 103 Lanesville Terrace, Boston 31, Mass.

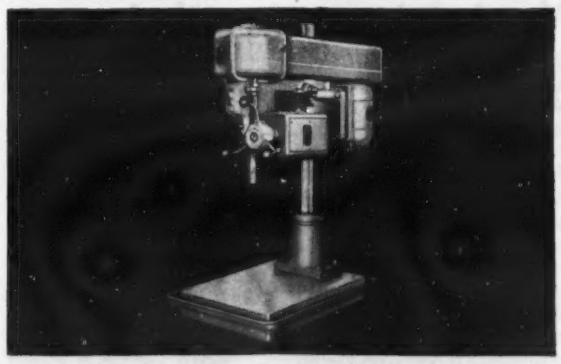
▲ For more details circle **NED-222 K** on enclosed inquiry slip ▲

HONEYCOMB PANEL SPACER
permits bolt use without crushing



Parts or materials can be assembled or joined with fasteners to honeycomb panels and other hollow or core type structures by the SSP spiral spacer, easily installed with inexpensive hand tools. It is available in any desired length for use with 3/16, ¼, 5/16, and ⅜-in. diameter rivets, bolts, or Huckbolt fasteners. The spacer gives columnar support for panel face sheets and prevents crushed panels. It is installed by drilling a hole through the structure, making a cavity within the panel for the spacer with a recessing tool, then inserting the spacer. Assembly is completed with conventional fastener techniques. ● **Huck Mfg. Co.**, 2480 Bellevue Ave., Detroit 7, Mich.

▲ For more details circle **NED-223 K** on enclosed inquiry slip ▲



NEW! WALKER-TURNER 20" 'POWER FEED' DRILL PRESSES

All 16 models in this new W-T "Light-Heavyweight" line offer revolutionary new mechanical power feed with performance features *never before available* on a standard drill press. Now you can do continuous, heavy duty production drilling faster, easier and with greater accuracy. Ask your W-T Distributor for an *action demonstration* (he's under "TOOLS" or "MACHINE TOOLS" in the Yellow Pages.) For FREE brochure, write: Rockwell Mfg. Co., Walker-Turner Div., Dept. WK45.400 N. Lexington Ave., Pgh. 8, Pa.

WALKER-TURNER
"LIGHT-HEAVYWEIGHT" MACHINE TOOLS
another fine product by
ROCKWELL

▲ For more details circle **NED-224 K** on enclosed inquiry slip ▲

Want help in cutting valve costs?

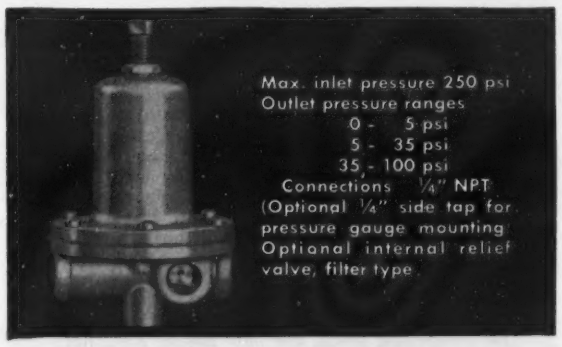
Get These Rockwell-Nordstrom Lubricated Plug Valve Booklets

- **Semi-Steel Valves** and accessories for normal temperature, normal pressure services. Bulletin V-203.
- **Corrosion Resisting Valves** in brass, Monel, stainless steel, bronze and other corrosion resistant patterns. Bulletin V-217.
- **Coated Valves** with new, special corrosion resisting coatings factory-applied to standard valves. Bulletin V-614.
- **Hypresphere** lubricated spherical plug valves for 16" to 30" gas and liquid lines. Bulletin V-607.
- **Power Operators** for pneumatic, hydraulic and electric control and remote operation. Bulletin V-214.
- **Condensed Catalog** on Rockwell-Nordstrom lubricated plug valves plus data on Rockwell liquid and gas meters and pressure regulators.
- **Steel, 1000-lb. Valves** with round opening for many services requiring full opening valves in smaller sizes. Bulletin V-611.
- **Lubricating and Servicing Instructions** for Rockwell-Nordstrom lubricated plug valves. Bulletin V-218.
- **Lubricant Recommendations** for genuine Rockwell valve lubricants specially prepared for wide variety of services. Bulletin V-220.
- **Maintenance & Instruction Manual** gives full data on valve fundamentals, assembly and specific field maintenance instuctions. V-616.
- **Water Transmission Valves** for public commercial-industrial installations. V-612.

Whatever your valve needs, you can select from the Rockwell-Nordstrom complete line of lubricated plug valves, lubricants and plug valve accessories. Write today for details: Rockwell Manufacturing Company, Pittsburgh 8, Pa. Canadian Valve Licensee: Peacock Brothers Limited.

ROCKWELL-Nordstrom VALVES
another fine product by
ROCKWELL

▲ For more details circle **NED-225 K** on enclosed inquiry slip ▲



NEW Instrument Regulator

The Rockwell "080" instrument regulator is the latest, most versatile for all "in plant" locations where a constant air or gas pressure must be supplied to *recording* and *control* devices. It is also highly useful for controlling paint spray units, air chucks, gas drives, air cylinders and LPG systems. Write for bulletin 1111, Rockwell Manufacturing Company, Dept. 45-K Pittsburgh 8, Pa.
In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

"080" INSTRUMENT REGULATOR
another fine product by
ROCKWELL

▲ For more details circle **NED-226 K** on enclosed inquiry slip ▲

CUT PARTS, TOOLS AND MATERIALS HANDLING AND STORAGE COSTS

Low-Cost Flexible Stackbin System Saves Space, Time and Labor

Stackbin®-Stackrack® Combinations are the ideal way to minimize parts, tools, materials handling. Stackbins are portable containers, so you can carry materials throughout your process without transferring contents to any other container. Stored in Stackracks, every Stackbin is instantly accessible when it's needed. You never disturb another bin. Hopper fronts on Stackbins provide visibility and accessibility to the materials. Available in 7 sizes, Stackbin-Stackrack Combinations make most efficient use of floor space. With inexpensive Adapters any small units can be stacked on larger units. Related items can be kept in one place. Individual units lock together: no tools, no setup time needed.

WRITE FOR NEW CATALOG

All Stackbin Products Sold Direct

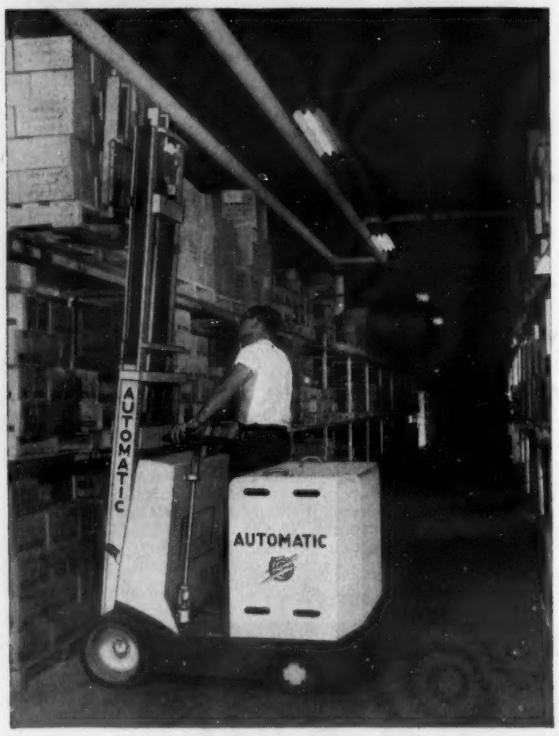
STACKBIN CORPORATION

1081 Main St., Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN SYSTEM *"Stacked and Still Accessible"*

▲ For more details circle NED-227 K on enclosed inquiry slip ▲



Here's a brand new reason why you should see your Automatic Dealer...

New center-control stand-up model maneuvers in tight areas

Now you can have the dependability and performance of Automatic trucks in a new compact, convenient center-controlled model. Operator of new Model FFC stands on a platform ahead of the battery. Getting on or off is easy from either side, and he enjoys maximum safety and visibility; even high-type batteries can be substituted without blocking vision. Using one lever, operator can lift and tilt load at same time or control each function independently.

Compact, easy to maneuver, ideally suited for congested areas, the new Model FFC not only offers the greater economy of electric drive over straight gas, but means clean, fume-free operation and low maintenance. Automatic's own Class H motors last longer because they're protected from burn-out by special silicone insulation. Available in 2000 and 3000 lbs. capacities.

Model FFC is in good company. It joins one of the broadest lines of industrial lift trucks in the industry. With this broad line, your Automatic Dealer can give you professional, *unbiased* advice on materials handling. Call him. **Write today for BULLETIN ON NEW MODEL FFC TRUCK.**

AUTOMATIC

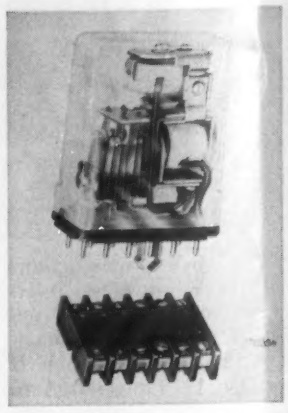
AUTOMATIC TRANSPORTATION COMPANY

Division of The Yale and Towne Manufacturing Company

61 W. 87th Street, Dept. TO, Chicago 20, Ill.

▲ For more details circle NED-228 K on enclosed inquiry slip ▲

ELECTRICAL RESET RELAY contacts operate 10 million times

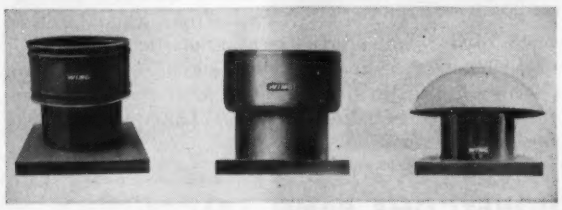


Clear plastic cover and 12-pin plug and matching heavy-duty socket are featured by Dunco 255 frame mechanical latch, electrical reset relay designed for control simplification in industrial control panels. Rigid metal structure provides exact positioning of the two interfering armatures assuring contact reliability through 10 million operations. Double-pole double-throw, triple-pole double-throw, and two normally-open and two normally closed contact arrangements are available. They are rated 10 amp at 115 v ac. Relay measures 3¾ x 2 21/32 x 27/32 in. • **Struthers-Dunn, Inc.,** Lambs Road, Pitman, N. J.

▲ For more details circle NED-229 K on enclosed inquiry slip ▲

POWER ROOF VENTILATORS capacities from 600 to 51,000 cfm

Three interchangeable discharges—standard straight-through, decorative straight-through, and mushroom (left to right)—are available in the Horizon line of



low silhouette power roof ventilators. Unobtrusive color scheme, magnetic damper lock, nylon damper bearings, and dynamically balanced, aerodynamically designed blades are features of all models. A rubber seal makes them chatter, leak, and lightproof. Motors are direct-connected to the fan shaft. Ten fan and 12 motor sizes cover a range from 600 to 51,000 cfm. Construction is welded steel with aluminum dampers (standard) or stainless steel and aluminum (optional). Fusible link attachments, protective coatings, and breather casings to isolate motors from contaminated exhaust air are options. • **L. J. Wing Mfg. Co.,** Vreeland Mills Road, Linden, N. J.

▲ For more details circle NED-230 K on enclosed inquiry slip ▲

Propeller Type Mixers

Mixing Equipment Co.—Lightnin portable propeller type mixers are described and illustrated in 4-page Bulletin B-520 and Lightnin fixed mounting propeller type mixers are covered in 4-page Bulletin B-521. Design features, specifications, and technical data are presented in both bulletins.

▲ For more details circle NED-231 K on enclosed inquiry slip ▲

You don't have to be a Monkey—

. . . to loosen frozen bolts on utility poles. The new Aerosol Kroil, which can be squirted with one finger, loosens the most stubborn frozen metal parts . . . FAST. More than 18,000 shops depend on Kroil whenever frozen metal parts threaten to tie up production or waste manhours. In this new package it is the finest rust-busting tool ever . . . shoots a stream 3 ft. yet won't leak. One customer said, "before trying Kroil we broke off every nut (on our heat treat trolleys), since then we have not lost one and have decreased the repairing time from 30 minutes to about 6 minutes per trolley."

KANO KROIL LOOSENS FROZEN METAL PARTS

Use Kroil on all dismantling jobs; for filing, sawing, honing; . . . also keeps air driven tools running freely.

Just try Kroil on a make good basis. Case of 12 Aerosol Kroil 12 ounce cans $18.75 f.o.b. factory or send $2.00 for one can postpaid. If it doesn't perform to suit you, return the empty can for refund.

KANO LABORATORIES 1074 Thompson Lane Nashville 11, Tennessee

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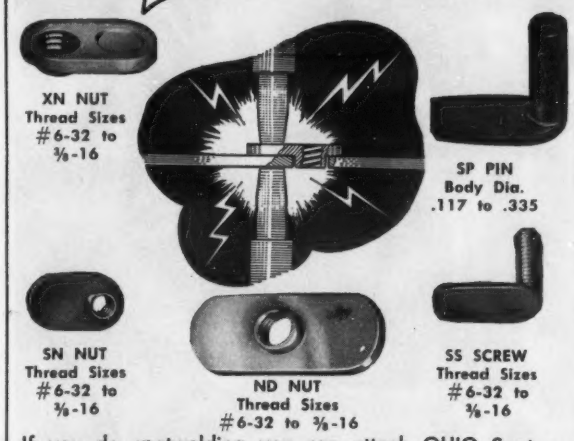
OHIO SPOT WELDING FASTENERS



If you do spotwelding you can attach OHIO Spotweld Fasteners at the same time for faster, trouble-free assembly.

Samples and information available upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

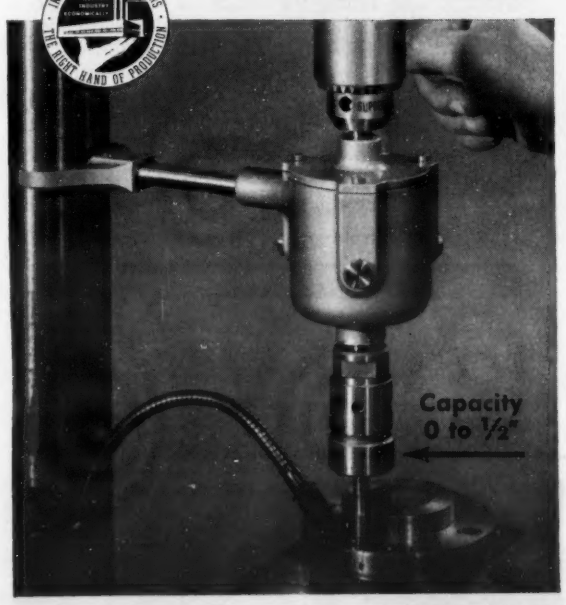
THE OHIO NUT AND BOLT CO.

14 FIRST STREET BEREA, OHIO

▲ For more details circle NED-233 K on enclosed inquiry slip ▲

New! FOR THE FIRST TIME **0—½" CAPACITY TAPPING HEAD**

FOR JUST $63



Supreme VersaTAPPER

DRILL PRESS TAPPING ATTACHMENT

Check VersaTAPPER Features:—

- Capacity 0-½"
- Comes complete with tap chuck
- Ball bearing spindle
- Runs in oil
- Fits any drill press
- Fully guaranteed
- Installs in seconds

The new Supreme VersaTAPPER gives tremendous tapping versatility—at a price that is no higher than some hand tapping devices. VersaTAPPER's capacity range is from 0 to ½". VersaTAPPER fits any drill press. It can be installed or removed in seconds. Why not circle number on reply card and get full information on the VersaTAPPER. Available in two models:—No. 6100, with straight shank for chucking; No. 6200 with No. 2 Morse Taper Arbor for direct installation to drill press spindle. Each model—$63.00.

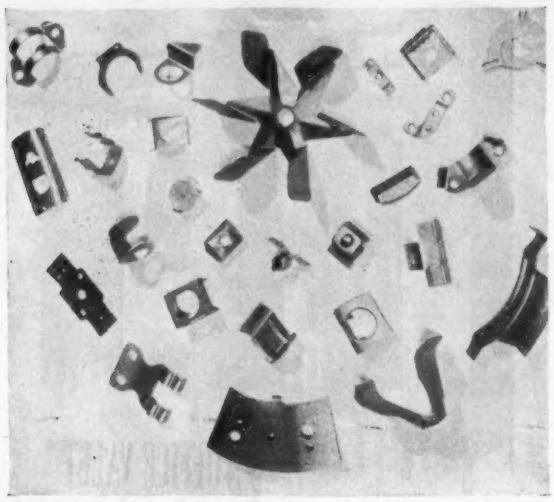
FROM THE MAKERS OF SUPREME BRAND CHUCKS

Supreme Products Corporation

2222 S. Calumet Avenue, Chicago 16, Illinois

DIVISION OF A•S•R PRODUCTS CORPORATION

▲ For more details circle NED-234 K on enclosed inquiry slip ▲



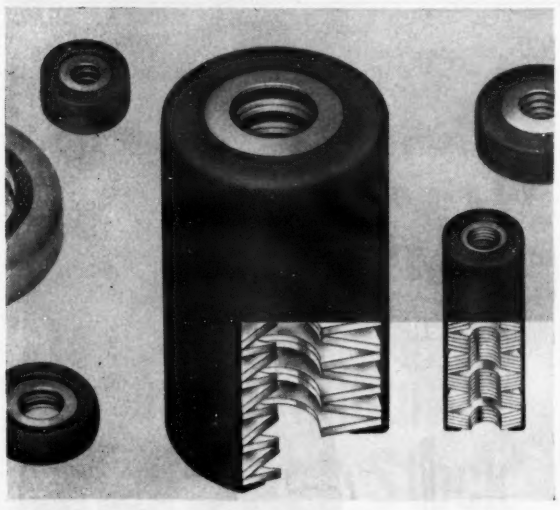
Small Stampings

Simple or intricate shapes punched, bent, crimped from all types of metals, including spring steel. Properly heat-treated to hold tolerances and working range. Our toolmakers are skilled in designing economical production set-ups for small or large orders. Send sample or specifications for quotation.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5923

▲ For more details circle NED-235 K on enclosed inquiry slip ▲



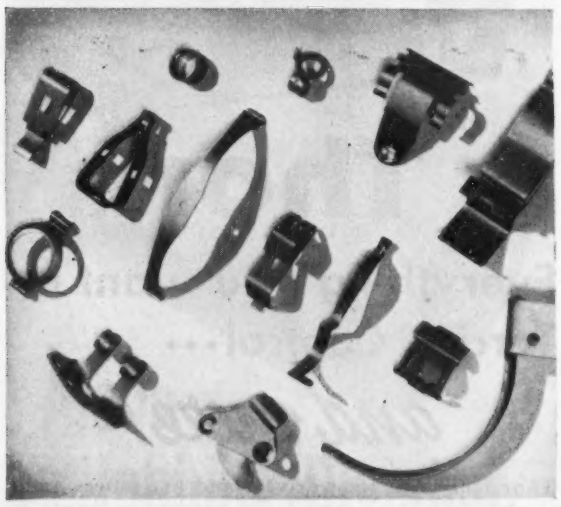
Flexi-Pak ELASTIC COVERED† Energy Cartridges

Energy Cartridges are available in Flexi-Pak form, with molded rubber, neoprene, or other elastic covering instead of rivets. For use on belleville washers with narrow walls, or where there are clearance restrictions, and to insure correct sequence of washers in handling. Write for pamphlet "Flexi-Pak elastic-covered† Energy Cartridges" (†U.S. Pat. 2,432,717).

Associated Spring Corporation
General Offices
Bristol, Connecticut

5942

▲ For more details circle NED-236 K on enclosed inquiry slip ▲



Flat Springs

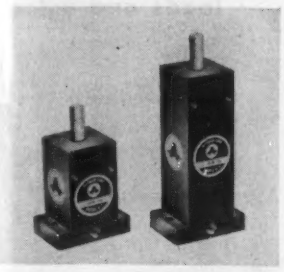
Made from our cold-rolled specialty steels or the material of your choice. Ingenuity of tool design and versatile forming equipment combine operations and simplify production. Exceptionally varied experience in this class of work. Send samples or specifications for quotation.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5920

▲ For more details circle NED-237 K on enclosed inquiry slip ▲

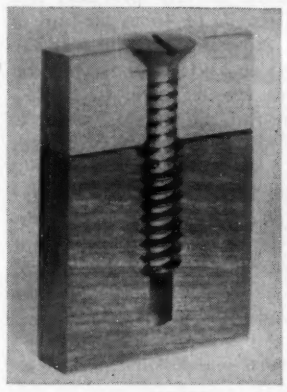
AIR CLAMPS
two sizes have spring return



Holes in the body and base of these two spring return air clamps permit either horizontal or vertical mounting. Models ACM-110 and ACM-120 have 1⅛-in. bores and 1 and 2-in. strokes, respectively. Bodies are Zamak alloy and piston rods are ground and polished stainless steel. Oilite front rod bearings and U-cup piston packing minimize friction. Air inlet ports are ⅛ in. NPT. Force to air pressure ratio is 1:1. Prices are $7.75 and $9. • **Allenair Corp.**, 255 E. Second St., Mineola, N. Y.

▲ For more details circle NED-238 K on enclosed inquiry slip ▲

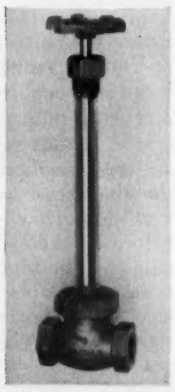
WIRE SCREW-THREAD INSERT
increases fastener holding power



Up to two and one-half times the holding power of standard fasteners is achieved with the Heli-Coil self-tapping wire screw-thread insert, designed for use in wood and related fibrous materials. Insert is a tightly-wound coil of wire which is wound onto an inserting mandrel, then screwed into a drilled hole clockwise with forward pressure. When insert taps itself to proper depth, mandrel is reversed and unscrewed from insert which is then ready for screw installation. Mandrel has a ¼-in. hexagon shank. Inserts are available in standard sizes of ¼-10 and 5/16-9. Smaller sizes are being developed. • **Heli-Coil Corp.**, Shelter Rock Lane, Danbury, Conn.

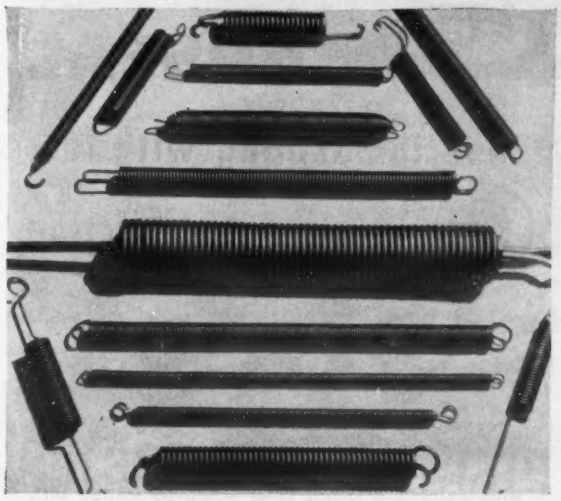
▲ For more details circle NED-239 K on enclosed inquiry slip ▲

EXTENDED BONNET VALVES
for liquefied gases



Teflon impregnated braided asbestos packing is used in these extended bonnet bronze valves for liquid oxygen, nitrogen, and hydrogen service. Solid Teflon packing is optional. The stainless steel extension tube of these gate, globe, and angle valves is silver soldered at each end. Valves are degreased and sealed to prevent contamination. Sizes from ¼ to 3 in. have over-all heights of 12, 15, 18, and 24 in. • **Stockham Valves & Fittings**, 4000 Tenth Ave. N., Birmingham 2, Ala.

▲ For more details circle NED-240 K on enclosed inquiry slip ▲



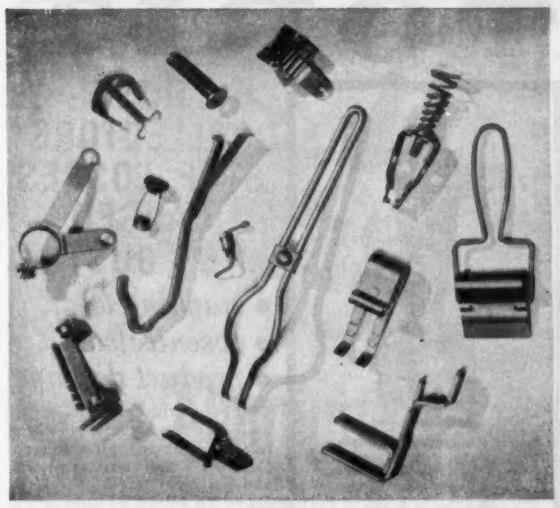
Extension Springs

All types and sizes custom made to meet your performance requirements. Wide range of end coil treatment, hooks and loops. Also swivel end and drawbar types. Precision made to hold dimensions and load carrying capacity. Send for pamphlet "Spring Design and Selection—in brief."

Associated Spring Corporation
General Offices
Bristol, Connecticut

5921

▲ For more details circle NED-241 K on enclosed inquiry slip ▲



Spring Assemblies

Partial or complete assemblies delivered ready to use. Combinations of round or flat wire springs, wire forms, stampings . . . punched, riveted, spot welded or assembled under spring tension. Springs also assembled with parts furnished by customer. Save equipment and labor costs. Use our convenient, ready-to-go facilities.

Associated Spring Corporation
General Offices
Bristol, Connecticut

5939

▲ For more details circle NED-242 K on enclosed inquiry slip ▲

Engineering, manufacturing, and sales facilities located coast-to-coast for custom service on all your requirements

BRISTOL, Connecticut
Wallace Barnes Division
Dunbar Brothers Division
F. N. Manross and Sons Division

SYRACUSE 9, New York
Wallace Barnes Division
State Fair Boulevard

CORRY, Pennsylvania
Raymond Manufacturing Division

HAMILTON, Ontario, Canada
The Wallace Barnes Company Ltd.
274 Sherman Ave. North

MONTREAL, Quebec, Canada
The Wallace Barnes Company Ltd.
119 Hymus Boulevard
Pointe Claire

CLEVELAND 23, Ohio
Sales Office
22700 Shore Center Avenue

DAYTON 3, Ohio
Ohio Division
1825 East First Street

PLYMOUTH 2, Michigan
B-G-R Division
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B-G-R Division
401 East Stadium Boulevard

MATTOON, Illinois
Gibson Division

CHICAGO 46, Illinois
Sales Office
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MILWAUKEE 2, Wisconsin
Milwaukee Division
341 East Erie Street

LOS ANGELES, California
Seaboard Pacific Division
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Gardena, California

Wallace Barnes Steel Division
Bristol, Connecticut
High Carbon Strip Steel

Associated Spring Corporation
General Offices
Bristol, Connecticut

KAPSEAL®

Superior Sealing with less wear and friction

Combining the Teflon KAPSEAL twins KIN and KEX with a standard O-ring gives improved sealing with longer life, lower breakout friction and lower running friction. KIN seals on the ID while KEX seals on the OD. This permits use of a KAPSEAL in any sealing situation. Use of the KAPSEAL improves O-ring performance immensely—Lab and field tests have logged over 5,200,000 cycles and they are still going strong on many different applications.

WHERE LIFE OR FRICTION IS A PROBLEM, KAPSEAL IS THE ANSWER

For more information,

WRITE DEPARTMENT 639 3630 WOODDALE AVENUE MINNEAPOLIS 16, MINNESOTA

▲ For more details circle NED-294 K on enclosed inquiry slip ▲

TORIT

Torit Cyclone Separator Model. High efficiency collection of all types of dust, chips and shavings. Up to 95% of the dust is removed from the air, drawn into the top of cone by centrifugal force, and settled to the dust reservoir below. Clean air is exhausted outside the building or indoors through after filters.

Self contained, compact, portable steel units. End mounted motor and blower mounted in free air for cool operation, is detachable for servicing or relocation of outlet. Cones can be rotated for proper inlet location. Dust reservoir has pull-out drawer for easy cleaning. Individual capacities range up to 6500 cubic feet per minute. Larger units are built on special order.

Prices start at $335.

DUST COLLECTORS STOP LOSSES CAUSED BY DUST

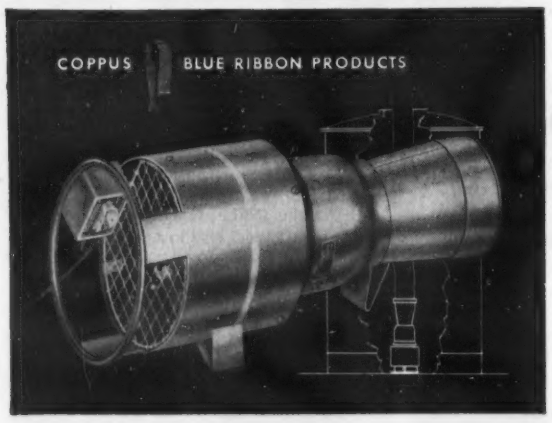
- *machine wear*
- *absenteeism*
- *product damage*

With a Torit Dust Collector, machines stay clean, hold close tolerance up to 80% longer. Dust is kept off bedways, slides, and bearing surfaces. There are fewer accidents because work areas are clean and safe. Employees work more efficiently in clean air, their health protected. And there is no dust in the air to harm fine product finishes.

* For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 230

TORIT
MANUFACTURING CO.
1133 Rankin St. • St. Paul 16, Minn.

▲ For more details circle NED-295 K on enclosed inquiry slip ▲



COPPUS "Blue Ribbon" Ventilator-Blowers are portable and easily adaptable . . . for supplying fresh air or discharging foul air or fumes. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
410 Park Avenue, Worcester 10, Mass.

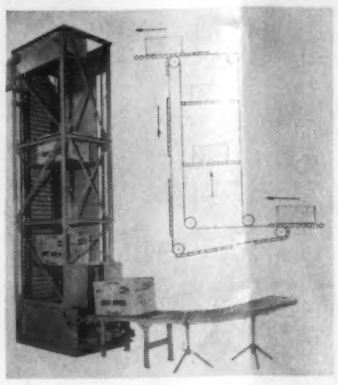
- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name .....
Company .....
Address .....
City .....

COPPUS BLOWERS

▲ For more details circle NED-296 K on enclosed inquiry slip ▲

VERTICAL CONVEYOR
compact unit moves between floors, loads and unloads automatically



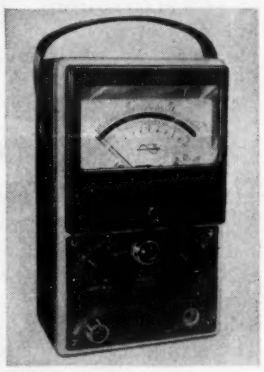
Continuous vertical means of transporting packages and other products between floors or levels is provided by the Escaveyor, adaptable to multistory buildings where floor space and handling area is at a premium. Two new standard sizes which accommodate packages 12½ in. wide by 24 in. long and 22½ in. wide by 36 in. long have maximum loads per platform of 500 and 400 lb, respectively. Total maximum live load of the entire conveyor is 1000 lb.

The Escaveyor can be built in any practical size and capacity with standard speeds of 40 to 50 fpm or special speeds. Motor sizes range up to 2 hp. It can be used for up or down service and can be made reversible. Platforms or flights rise or lower in a horizontal position, yet fold on the return side so as to require no more area than the chains on which they are mounted.

The vertical unit will load itself automatically from a feeder conveyor line with an automatic spacing device while in motion, and will unload automatically to a receiving conveyor. Platform spacing depends on size and weight of package to be handled. • **Standard Conveyor Co.**, 315 N.W. Second St., North St. Paul 9, Minn.

▲ For more details circle NED-297 K on enclosed inquiry slip ▲

PORTABLE VIBRATION METER
with 5 to 1200 cps frequency range



Peak amplitudes of both absolute and relative vibrations are read directly on large dial of transistorized PR-9252 portable vibration meter. Readings are in microns over a 5 to 1200 cps frequency range. The 5-lb, battery-operated meter has a measuring range from 0 to 1000 microns in five steps and a sensitivity down to 0 to 10 microns full scale. Instrument facilitates checking the amount of wear in bearings or cutting tools to signal need for replacement before breakdown. Output can be connected to an oscilloscope or high speed recorder. Input from a phase indicator enables phase measurements of rotating objects to be made. • **Korfund Co.**, Dept. 78M, Cantiague Road, Westbury, N. Y.

▲ For more details circle NED-298 K on enclosed inquiry slip ▲

LOW-COST AUTOMATION

with the

Bellows AIR MOTOR®

Automation need not be expensive! With the Bellows Air Motor — the *original* air cylinder with built-in valve and operating controls — your own men can automate existing machinery or build special-purpose high-production equipment that boosts production per man-hour, improves quality, reduces scrap, prolongs tool life. Bellows Air Motors provide all the motions necessary to control or operate machinery — push-pull, lift-lower, twist-turn — *quickly, economically, dependably.*

Write for free Bulletins BM-25 and ML-5
Address Dept. NED-1060,
Bellows-Valvair, Akron 9, Ohio

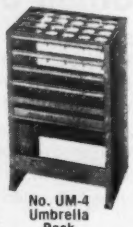
639-C-3

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

▲ For more details circle NED-299 K on enclosed inquiry slip ▲

The OFFICE VALET® Lockerette

Combines the best features of both lockers and coat racks.



No. UM-4 Umbrella Rack

Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers—do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects. Improves health and morale—lower absenteeism.

Lockerettes save space too . . . the No. 6-12 (2-column) accommodates 12 people in 6 feet; the No. 9-18 (illustrated) accommodates 18 in 9 feet.

WRITE FOR BULLETIN LO-8

VOGEL-PETERSON CO. Rt. 83 & Madison St. Elmhurst, Illinois

▲ For more details circle NED-300 K on enclosed inquiry slip ▲

Thor POWER TOOLS

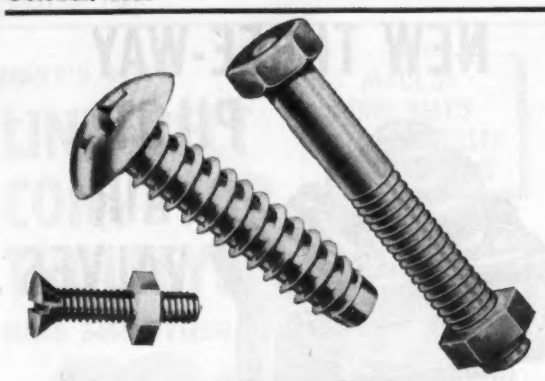
Thor

Everything you want in Torque Control . . .

and more!

Thor Uni-Tork screwdrivers and nut setters make torque control of threaded fasteners as simple as turning on a light. Operator judgment and guesswork is gone. Uni-Tork snaps out of engagement when desired torque is reached, snaps in again when applied to the work. Thor Uni-Tork air tools have external torque adjustments from 10 to 100 inch-pounds. Available on all Thor air screwdrivers and nut setters and on Thor electric tools. Your Thor factory representative or distributor will show you the tools that think for themselves. Thor Power Tool Company, Aurora, Illinois. Branches in all principal cities.

▲ For more details circle NED-301 K on enclosed inquiry slip ▲

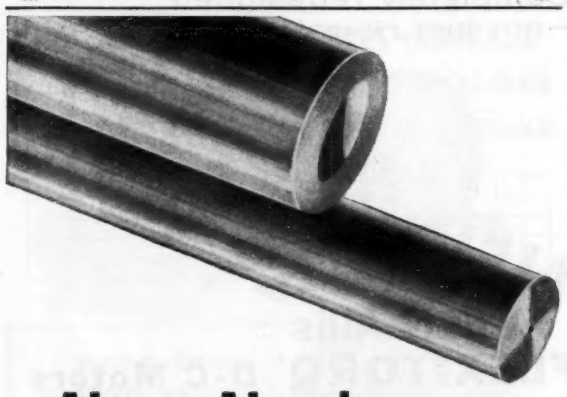


Alcoa Aluminum Fasteners

Any type! Any size! High-strength, heat-treated alloys . . . low prices and *fast delivery!* Simply look in the Yellow Pages for your local Alcoa distributor. He has the largest line of aluminum fasteners available—Alcoa® Aluminum bolts, nuts, rivets, washers . . . machine screws, sheet metal screws, wood screws . . . *anything* you need in standard types and sizes! And he solves your inventory problem by offering fast delivery from complete stocks. Corrosion-resistant Alcoa Aluminum Fasteners are carefully inspected and counted to assure *full* count with no "seconds" or rejects.

▲ For additional data, samples, check coupon below ▲

▲ For more details circle NED-302 K on enclosed inquiry slip ▲



Alcoa Aluminum Bearing Stock

For bearings and bushings that cost *less* . . . give *more* . . . last *longer*, call your Bunting Distributor. Easily machined aluminum lasts longer in tough service applications. Aluminum bearings withstand loads up to 10,000 psi . . . run up to 20 degrees cooler than other materials. Starting torque is reduced, and aluminum conforms readily to misaligned shafts. Call your Bunting Distributor today.

And for more information about Alcoa Aluminum Bearing Stock, check coupon below

▲ For more details circle NED-303 K on enclosed inquiry slip ▲

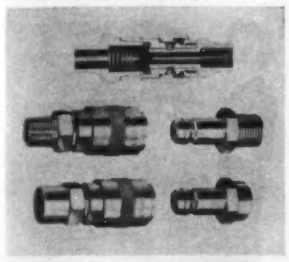
Alcoa Jobbing Division

Utilize all the metal-working machines and fabricating facilities you need *without* capital investment! Get expert engineering and design help, as well! Alcoa's Jobbing Division will even produce your product for you! You no longer need endure production log-jams because of inadequate facilities or lack of specialized personnel. Contact your nearest Alcoa sales office and learn how the Jobbing Division can help you.

For a free, 16-page booklet describing this service, check coupon at right

▲ For more details circle NED-304 K on enclosed inquiry slip ▲

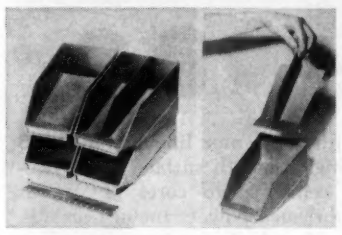
HOSE CONNECTOR made of Type 316 stainless steel



Automatic locking mechanism in the Pushomatic Series AS stainless steel quick disconnect for chemical, food, fluid, and gas hoses forms a high pressure and leakproof connection. Connector is equipped with Buna-N seals and an integral shut-off valve in the socket to stop flow when lines are disconnected. Full 360-degree ball bearing swivel action prevents hose from twisting or kinking. Socket, plug, and internal parts are made of Type 316 stainless steel. Unit is rated for connected pressures to 7500 psi and is made with 1/8 and 1/4-in. NPT male and female end connections. Hose is connected by plugging components together without turning the sleeve. • **Perfecting Service Co.**, 332 Atando Ave., Charlotte 6, N. C.

▲ For more details circle NED-305 K on enclosed inquiry slip ▲

INSERT DIVIDER for plastic assembly bins



This insert divider, made of high impact plastic, custom - fits Model A-10P Stackbin plastic assembly bins to increase small parts handling versatility. Plastic construction eliminates magnetic interference and parts contamination problems. Bins can be stacked in an all-plastic semicircular arrangement, or similarly interstacked with company's steel bins. • **Stackbin Corp.**, 1081 Main St., Pawtucket, R. I.

▲ For more details circle NED-306 K on enclosed inquiry slip ▲

EXIT-ALARM SIGN affords 180-degree visibility

Wall or shelf-mounted GS-6 exit light and alarm affords 180-degree visibility of the illuminated words "exit." Separate alarm horn signals the exit location when smoke, fire, or rubble obscure it. If normal power source fails, unit internally converts to a self-contained, automatically charged battery that maintains the sign light and energizes an intermittent horn signal. Unit detaches instantly from mounting plate for emergency use elsewhere, and may be operated manually by switch if necessary. • **Infra Corp.**, 66 S. Main St., Clarkston, Mich.

▲ For more details circle NED-307 K on enclosed inquiry slip ▲

Alcoa Aluminum Abrasive Tread Plate

Provide lasting protection for employees and stop production-delaying accidents with Alcoa® Aluminum Abrasive Tread Plate. Made with tough particles of fused aluminum oxide, this lightweight and corrosion-resistant tread plate is easily installed . . . and is *maintenance-free!* Continued use actually *renews* the surface, uncovers embedded abrasive particles. Don't take chances with wet, oily, greasy floors—or danger spots where slippery materials accumulate. Install Alcoa Aluminum Abrasive Tread Plate.

For more information and free sample, check coupon at bottom of page

▲ For more details circle NED-308 K on enclosed inquiry slip ▲

Alcoa Aluminum Welding Materials

Improve the finished quality of your welding jobs and also cut costs with Alcoa® Aluminum Welding Materials! Get expert technical assistance—based on extensive research in alloys, techniques, joining methods—from any Alcoa sales office. Get quick delivery of the finest welding materials—IG electrode . . . coil and straight rod . . . flux and solder—from your nearest Alcoa distributor.

Use the coupon below for welding films and recently released welding design information

▲ For more details circle NED-309 K on enclosed inquiry slip ▲

Here's the coupon that will get fast results from the broadest aluminum distribution organization in the world . . .

Alcoa Sales Offices and Distributors

FOR EVEN FASTER SERVICE . . . look in the Yellow Pages under "Aluminum." Call the Alcoa sales office or distributor nearest you (located strategically throughout America!). You can rely on the prompt service, fully stocked warehouses and complete technical information from Alcoa!

Aluminum Company of America
1763-K Alcoa Building, Pittsburgh 19, Pa.

Please send me samples and/or information about:

☐ ALCOA ABRASIVE TREAD PLATE ☐ ALCOA ALUMINUM BEARING STOCK
☐ ALCOA ALUMINUM INDUSTRIAL FASTENERS ☐ ALCOA ALUMINUM WELDING MATERIALS
☐ ALCOA ALUMINUM FABRICATING FACILITIES

Name _____
Title _____
Company _____
Street Address _____
City _____ Zone _____ State _____

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

The Atlas back-geared 12" lathes have big Capacity — 12¼" swing over bed, 12" swing over saddle wings, 8" over cross slide, up to 36" between centers. They're ruggedly built throughout with Timken tapered roller bearings, 16 spindle speeds, reversible power cross feed and longitudinal feed, wide thread cutting range, V-Belt drive and heavy beds with ways precision ground to within .001" in all planes. These and other big-lathe features, *standard equipment* on Atlas, give you greater capacity, versatility and performance than have ever before been available at or near their low price. Available in bench models with standard change gears or quick-change gears, and in two underneath drive models with pedestal base as illustrated. See them at your Atlas dealer's, or —

WRITE FOR ILLUSTRATED CATALOG

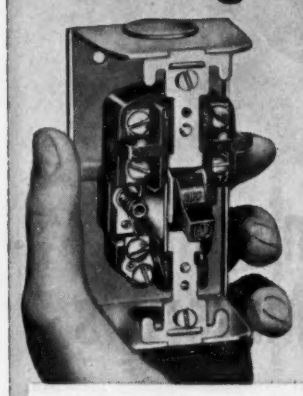
ATLAS PRESS COMPANY

10-15 N. PITCHER STREET - KALAMAZOO, MICHIGAN

▲ For more details circle NED-310 K on enclosed inquiry slip ▲

Small motor **Starting Switches** with dependable overload protection

A-B QUALITY



Bulletin 600 Starting Switch with wrap-around cover removed to show thermal overload breaker.

The "burnout" of a small motor can be just as expensive—in terms of production dollars—as the failure of a larger motor. With this compact A-B Bulletin 600 starting switch, your motors—1 HP or less—have the overload protection they deserve. This starting switch automatically opens and disconnects the motor on dangerous overloads—and the switch cannot be held closed during such overloads. Also, the rugged snap-action switch mechanism has double break, silver contacts that never need servicing. Available in combination with pilot light or selector switch. Send for full information on these quality starting switches.

NEMA Type 1 with neon pilot light

NEMA Type 4 watertight weatherproof

NEMA Type 7 hazardous gas locations

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
Quality MOTOR CONTROL

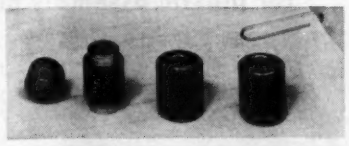
▲ For more details circle NED-311 K on enclosed inquiry slip ▲

XEROGRAPHIC COPIER
turns out drawings from microfilm

After the operator of the Copyflo 1824 xerographic copier inserts a microfilm aperture data processing card, insertion of a sheet of plain paper up to 18 x 24 in. starts the mechanism. Within a few seconds a print or offset paper master of an engineering drawing emerges dry and ready for use. Exposure, development, and print delivery are automatic. The sharp, permanent, black-on-white print may be written on with pen or pencil. • **Haloid Xerox Inc.**, 8-1824 Haloid St., Rochester 3, N. Y.

▲ For more details circle NED-312 K on enclosed inquiry slip ▲

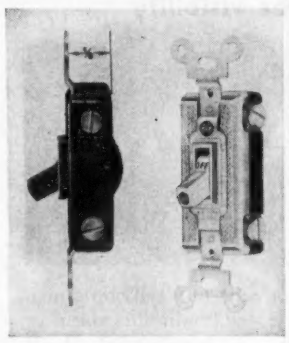
NEOPRENE ROLLERS
molded to finished size



Molding technique employed for these pressure rollers enables them to be made to finished size without grinding. They are concentric with the center line within 0.003 in. total indicator reading. Smooth surface finish neoprene rollers may be cemented to cores of various metals, including self-lubricated powder metal bearings. Lengths up to 2 in. are made in various diameters, custom molded to specifications. • **Kitco Engineering & Mfg. Co.**, 200 E. Spring St., Bluffton, Ind.

▲ For more details circle NED-313 K on enclosed inquiry slip ▲

COMPACT LIGHT SWITCH
mechanical type operates quietly



Designed to fit 1¼-in. boxes, the ⅝-in. deep space saving Quiette mechanical switch allows ample space for wiring in thin-wall installations. It can be used in any position for both fluorescent and incandescent lights. Two anchor holes at each binding screw hold the wire during looping. The UL-approved switch is rated 15 amp on 120-277 v ac and is available in single and double-pole, three and four-way types in Ivorylite or brown Bakelite. • **Arrow-Hart & Hegeman Electric Co.**, 103 Hawthorn St., Hartford 6, Conn.

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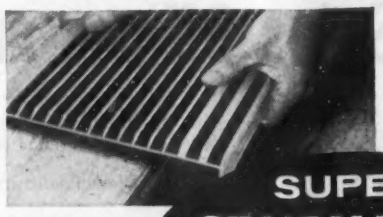
WORN DANGEROUS STAIRS MADE NEW AGAIN IN ONE DAY —



. . . Just This Easy

Outwears Concrete, Stone or Marble

NEW **SUPER STAIRMASTER Aluminum Safety Treads**

Brand new "TRAFFIC-FLOW" design. Made of heavy-duty, non-corrosive aluminum alloy base. Filled with diamond hard abrasive. Non-slip under oil or grease. Easy to clean. Fits tightly, securely, over all types of stairs.

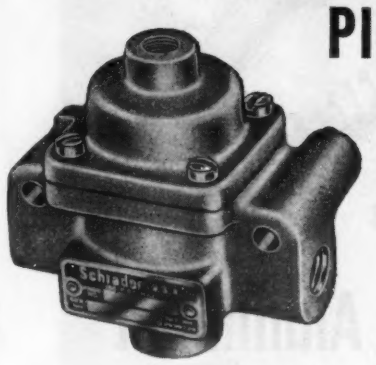
Guaranteed by Warranty Bond

FREE new bulletin shows how to repair stairs GET DETAILS

Dept. S-16
WOOSTER PRODUCTS INC.
1000 Spruce St., Wooster, Ohio
NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

▲ For more details circle NED-315 K on enclosed inquiry slip ▲

NEW THREE-WAY PILOT AIR VALVES



. . . Complete new line
. . . Normally open or normally closed types
. . . May easily be converted to solenoid type

Ideal for operating single-acting cylinders. ¼", ⅜", ½", ¾" and 1" N.P.T. port sizes. Compact size, sturdy construction and simplicity of parts assure long service life and neat air system hookups. Choice of actuating valves to load and relieve pilot can be made from Schrader's many 3-way valves. Flow capacities 60 to 400 cu. ft. per minute.

Send for informative literature on these and all your air control needs. Schrader, maker of the most complete lines of air products in the world, has all the answers.

Schrader®

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Inc.
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

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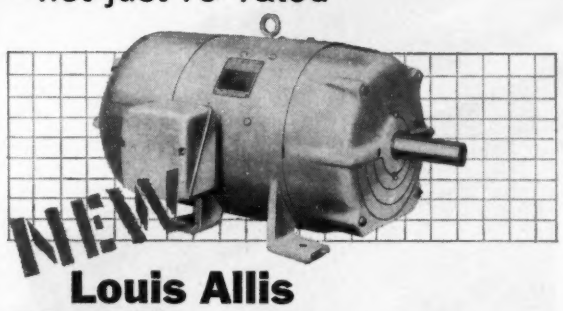
Completely redesigned —not just re-rated



Louis Allis FLEXITORQ® D-C Motors

The Louis Allis Flexitorq is a brand-new high-performance d-c motor. It offers you improved commutation; exceptionally low brush wear; 400% short-time and 15% continuous overload capacity; and unmatched field flexibility.

Improved armature and brush design provides 40% faster acceleration, plus much better deceleration, reversing, and speed changing. Class B insulation rates the new d-c motors at 60°C rise for continuous operation—and resists heat, moisture, acids, alkalies, etc.

Check the Flexitorq. It's the most improved d-c motor for constant and adjustable speed applications. Sizes from 1 to 400 hp, with choice of enclosures and modifications. Write for Bulletins 3150 and 3200 to The Louis Allis Co., 436 E. Stewart St., Milwaukee 1, Wisconsin.

LOUIS ALLIS

DC-218

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SPITFIRE Grinding Discs

GREATER SAFETY MARGIN! Aluminum Oxide Discs feature built-in barrier protection plus fully reinforced edges to eliminate limpness and excessive grit loss. Spitfire Discs provide 25% greater safety margin on "snagging" and "hang up" operations.

FASTER, COOLER CUTTING! Sharp, uniform cutting action makes full use of disc surface . . . speeds up grinding and sanding even under toughest conditions. Cooler running to add extra life, longer production performance.

A TYPE AND SIZE FOR EVERY JOB! Available in "Special," "Standard" and "Heavy Duty" discs for everything from light gauge metal sanding and polishing to high speed finishing operations. Grit sizes 16 through 180. Disc diameters include 6", 7", 8" and 9½" with ½" and ⅞" arbor holes.

Write for "Spitfire" folder!

JEWEL BRAND

COATED ABRASIVES
Belts • Rolls • Sheets • Discs • Specialties

ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

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HERE'S WHY

LINK-BELT CONVEYOR TROLLEYS

RIDE SMOOTHER . . . LONGER

1. EXTRA-LONG LIFE results from carburizing and heat treating wheels, machined from steel tubing.
2. FRICTION IS MINIMIZED because cages space steel balls accurately.
3. FREE-ROLLING ACTION AND HIGH CAPACITY are benefits assured by precision-ground raceways.
4. PRESS-FITTING of bolts or rivets is another long-life feature.
5. NO WHEEL "WOBBLE". Forged steel brackets provide strength to keep trolleys aligned.

15,005

NEW TROLLEY BOOK 2636 is now available. Send for your copy today.

LINK-BELT

BALL BEARING CONVEYOR TROLLEYS
LINK-BELT COMPANY, Prudential Plaza, Dept. NED, Chicago 1, Ill.

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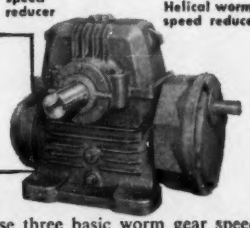
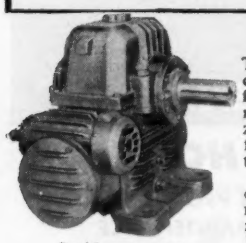
new LINK-BELT fan-cooled worm gear speed reducers

Single worm gear speed reducer

Helical worm gear, speed reducer



broadest line in industry



Double worm gear speed reducer

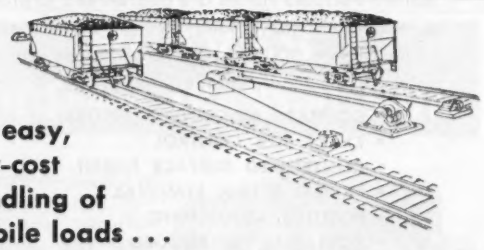
These three basic worm gear speed reducers are available in many variations for any right-angle speed reduction need. Single or double reduction, horizontal or vertical mountings . . . ratios from 5:1 to 3600:1, torque ratings up to 135,000 pound inches, up to 150 hp.

Compact, self-lubricated and fan-cooled, these units offer high ratings, maximum heat dissipation, minimum maintenance. Call your nearby Link-Belt district office or authorized stock-carrying distributor. 15,281

BOOK 2824 contains complete data. Write Link-Belt Company, Prudential Plaza, Chicago 1, Ill.

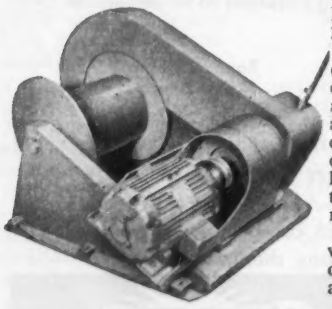
LINK-BELT SPEED REDUCERS

▲ For more details circle NED-320 K on enclosed inquiry slip ▲



For easy, low-cost handling of mobile loads . . .

LINK-BELT DRUM-TYPE CAR PULLERS



Powerful enough to move 20 loaded freight cars (1000 tons), Link-Belt car pullers bring ease and economy to heavy haulage jobs. They're ideal for a wide variety of applications . . . moving freight cars and barges, dragging loaded skids, pulling materials in and out of furnaces, kilns, ovens.

Available *from stock* with single or double drums . . . in many types and capacities.

SEND FOR *NEW* BOOK 2892

LINK-BELT

CAR PULLERS AND CAR SPOTTERS

LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill. 15,230

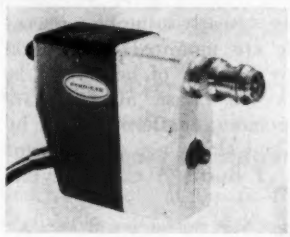
▲ For more details circle NED-321 K on enclosed inquiry slip ▲

VACUUM CLEANERS with up to 3-in. diameter hoses

Line of four Ace drum conversion vacuum cleaners for wet or dry pickup includes this Model 155-PDT-Super which has two power units, two dust bags and support rods, plus one cover, a four-wheel dolly, and 55-gal drum. Other models range down to the standard set made up of a cover, dust bag and support rod. Each is available with 1½, 2, or 3-in. diameter hoses and a selection of over 100 cleaning attachments. The two-motor, 3-in. hose unit will pick up chunks of concrete, metal, or wood with a longest dimension of less than 3 in. It will also suck water or other liquids from flooded areas and sumps. Vacuums can be used with any 55-gal steel drum. • **Ace-Sycamore, Inc.**, 448 DeKalb Ave., Sycamore, Ill.

▲ For more details circle NED-322 K on enclosed inquiry slip ▲

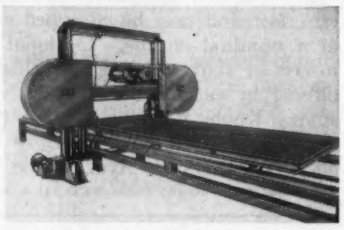
OPTICAL PYROMETER two-color model is automatic



Continuous measurement and control of temperature in 1400 to 4500° F and 750 to 2500° C ranges are performed automatically by the Pyro-Eye two-color optical pyrometer. Models for fixed mounting in production areas and for portable laboratory use are available in single, double, or triple ranges. They measure temperatures at any distance from 20 in. to 60 ft from source. It utilizes spectral characteristics of radiant energy and is relatively insensitive to smoke, atmospheric contaminants, dust, dirt, or size of target area. • **Instrument Development Laboratories, Inc.**, 67 Mechanic St., Attleboro, Mass.

▲ For more details circle NED-323 K on enclosed inquiry slip ▲

PLASTIC BLOCK SAW cuts foam into ¼ to 8-in. sheets



Large blocks of plastic foam are slice into sheets of any thickness from ¼ to 8 in. by the Rigid Poly Slabber. Machine has a 50 x 146-in. power driven reciprocating table which will handle a foam block up to 24 in. thick. It carries block through a vertically adjustable splitting head then returns to start position at twice the cutting rate speed. Head then rises or lowers at speed of 48 ipm for next cut. Splitting head is equipped with band saw with blades available in various gages and tooth designs. • **Falls Engineering & Machine Co.**, 1734 Front St., Cuyahoga Falls, Ohio.

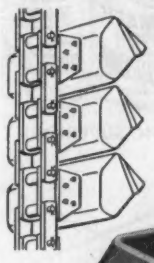
▲ For more details circle NED-324 K on enclosed inquiry slip ▲

NUMERICAL CONTROL SYSTEM calculates cutting tool positions

Full range electronic origin selection and absolute display of actual cutting tool or workpiece position are features of the Series 100 numerical control system, a Modumatic linear display system for adaptation to new or existing machines. It automatically performs calculations for rotary and linear positioning. A position feedback transducer, electronic circuitry, and a visual display are utilized to indicate the actual position of the tool or workpiece. The actual position is displayed in decimal form by illuminated numbers, readable from 20 ft. Display unit may be mounted on machine or remotely located. Any desired offset is quickly dialed in by the operator on manual selector switches. • **United Aircraft Corp.**, Norden Div., Data Systems Dept., Santa Ana, Calif.

▲ For more details circle NED-325 K on enclosed inquiry slip ▲

NEW! Hooded back AC cast elevator buckets

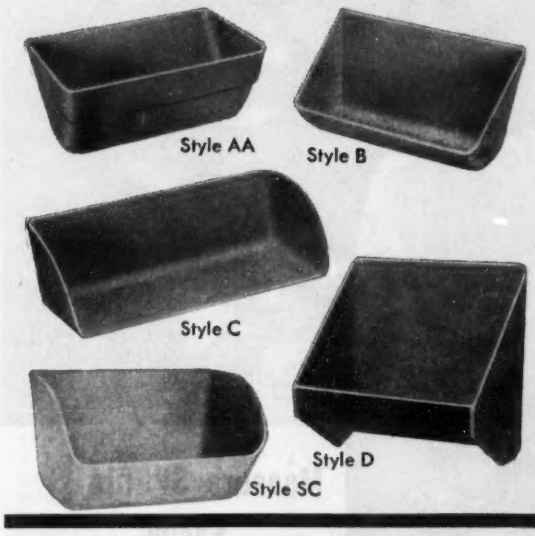


- Greater capacity
- Closer bucket spacing
- More effective discharge

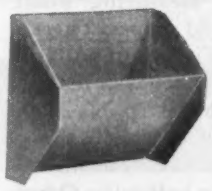
Here's the bucket for high-capacity elevating of cement, clinker, crushed stone and similar materials. *Hooded back* permits close bucket spacing for increased capacity per elevator. *High-front design* assures greater load per bucket. And *thick lip section* promotes long wear life . . . provides extra rigidity.

Link-Belt has malleable or Promal cast buckets for every material and capacity. Catalog 1050 has full details.

OTHER LINK-BELT MALLEABLE CAST BUCKETS

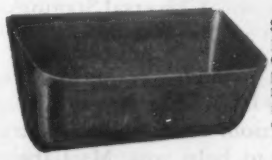


Link-Belt also offers STEEL fabricated elevator buckets



CONTINUOUS AND SUPER-CAPACITY CONTINUOUS — For use where high capacity at low speed is desired. Discharge is fast and clean.

"HS" HIGH SPEED — For high-speed elevating of large capacities. High ends minimize spillage . . . low lip facilitates pickup.



SALEM — Shaped for proper filling and free discharge of granular or powdered free-flowing materials. Ends are folded around the back for extra rigidity.

ALL LINK-BELT STEEL BUCKETS are of welded construction, formed of heavy-gauge steel. For complete information, contact your nearest Link-Belt office or authorized stock-carrying distributor. Or write for Catalog 1050. 15,392

LINK-BELT

ELEVATOR BUCKETS

LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill.

▲ For more details circle NED-326 K on enclosed inquiry slip ▲

STOPS RUST!

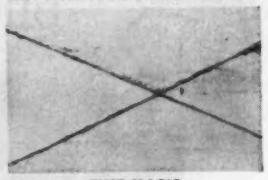
BRUSH OR SPRAY!

530% better than other widely promoted brands

DRY IN 20 MINUTES! TOP COAT IN 2 HOURS!

Krylon Rust Magic penetrates rust in minutes, bonds itself to the metal, positively prevents further corrosive action. Compatible with almost any finish . . . lacquers, enamels, varnishes, acrylics, epoxies, vinyls, latex, oil-base and water-base paints. Earned a near-perfect 9.1 rating in ASTM Rust Prevention Index tests . . . 530% higher than other leading brands! At leading jobbers and paint stores everywhere—or write on your company letterhead for information.

RUST MAGIC SUPERIORITY



RUST MAGIC

BRAND A

Metal panels subjected to extreme salt spray for 325 hours. Rust Magic panel film shows no defect or corrosion except where scribed through to bare metal. Brand A shows severe blistering, under-film corrosion, lifting and creeping.

KRYLON, INC. NORRISTOWN, PA.

Since 1948 KRYLON has sold more aerosol paints than all other aerosol brands combined

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Measure SPECIALS Easily with This New Universal Staging Fixture

Cut set-up problems in measuring small parts, cylindrical pieces, odd shapes. There's a new Universal Staging Fixture to position just about *any* part up to 3 inches in length. Mount the part and see the sharp image on the distortion-free 10-inch screen. Get micrometer readings to .001". So easy unskilled help can learn it in less than half a day. Other big savings, too . . . extremely low purchase price, *plus* almost unlimited versatility. With your choice of understage and surface illumination, and the new Universal Staging Fixtures, you can just about write off special jigs and fixtures as a cost factor.

Find out more about how B&L can simplify your precision inspection. There's a complete line of instruments to help you. Mail the coupon now.

BAUSCH & LOMB

BAUSCH & LOMB INCORPORATED
72710 Bausch St., Rochester 2, N. Y.

Please send literature on:

- ☐ Bench Comparator, D-297
- ☐ Universal Staging Fixture, D-2007
- ☐ Toolmakers' Microscope
- ☐ StereoZoom Microscopes, D-15
- ☐ Scratch Depth Gage, D-2004
- ☐ Optical Aids, D-1059

NAME .....

COMPANY .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

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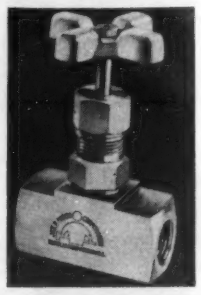
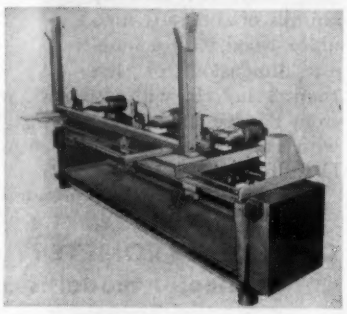
STAINLESS NEEDLE VALVE for 6000-psi service to 500° F



Made of Type 316 stainless steel, Series 1936 needle valves give precision throttling and tight shut-off at any pressure to 6000 psi. These corrosion resistant valves are suited for temperatures ranging from −100 to 500° F through use of Marpak Teflon packing. Globe and angle patterns and panel mounting types are available in 1/8 to 1-in. sizes. • **Marsh Instrument Co.**, 3501 Howard St., Skokie, Ill.

▲ For more details circle NED-329 K on enclosed inquiry slip ▲

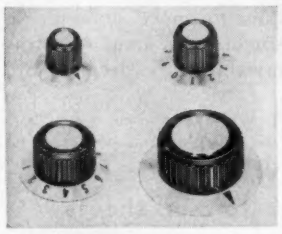
MULTIPLE DRILLING MACHINES feature building block construction



Custom engineered multiple drilling machines are constructed on the Dovetail modular building-block basis which affords flexibility and interchangeability of operations. Central pneumatic drives, which feed all drilling stations simultaneously, greatly simplify operation. Multiple drill heads are mounted directly on flange face motors, and any number of heads can be assembled on adjustable stations. Basic machines are easily converted to full or semiautomatic operation by addition of magazine feed and clamping. • **Pistorius Machine Co.**, Dept. NED, 3 Burns Ave., Hicksville, N. Y.

▲ For more details circle NED-330 K on enclosed inquiry slip ▲

MOLDED KNOBS stocked in four standard sizes



Molded of thermosetting phenolic or urea materials to MIL-P-14 specifications, this series of four stock molded knobs is available with nickel plated brass inserts for 1/4 or 1/8-in. diameter shafts. They have two socket setscrews and may be equipped with special shaft holes at a nominal charge. Optional aluminum decorative inserts or skirts, etched and filled to requirements, are offered in various anodized finishes, plain or radially spun. Knobs have heights of 5/8 to 3/4 in. and diameters from 23/32 to 1 3/4 in. • **Rogan Brothers, Inc.**, 8025 N. Monticello Ave., Skokie, Ill.

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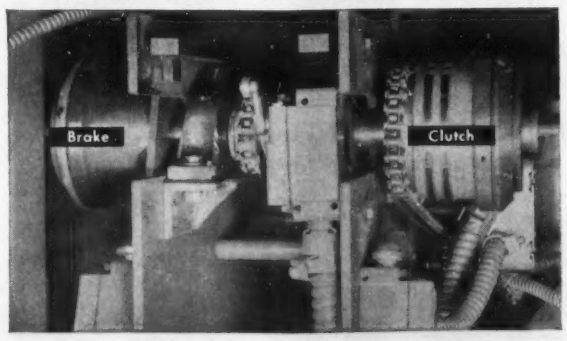
Simplatrol

LARGER SIZES ELECTRIC CLUTCHES & BRAKES



Give swift, certain push-button control on automatic die cutting press.

Here you see Simplatrol 130 Electric Clutch and Brake units installed in a high speed, automatic die cutting press.

These durable Simplatrol units control the vital and unique automatic table drive motion in the press. Clutch and brake actions are timed and controlled by photoelectric cell.

Simplatrol's patented diaphragm feature means reduced maintenance cost in this and in hundreds of other installations. There is no shock or noise in the clutching and braking action.

Ask for complete Simplatrol literature.

Simplatrol products corp.
24-6 SALISBURY ST., WORCESTER, MASS.
Representation in Key Industrial Areas

110-9

▲ For more details circle NED-332 K on enclosed inquiry slip ▲

THE VER-T-RACK

THE ACME OF VERSATILITY

- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT—65½" LENGTH — 35"
WIDTH— 24" CAPACITY 2000 lbs.

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck.
Trays are adjustable on VER-T-RACK

PRICE — $49.50 Varied Accessories Extra

Slightly higher west of the Rockies Write today for descriptive literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 11, OHIO

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PORTABLE HONES

SAVE MANY HOURS IN PRODUCTION, SALVAGE, JOB LOT, MAINTENANCE AND TOOL ROOM

More than 100,000 satisfied users testify to the utility of these "Tools of a Thousand Uses" for internal diameter work in nearly all materials.

Sunnen Portable Hones are guaranteed to produce geometrically round, straight bores—accurate within .0005"—with any desired cross-hatched, lubricant-retaining finish.

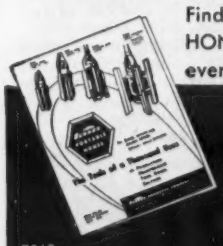
- CORRECTS MACHINING ERRORS
- EXACT SIZE CONTROL
- CONTROLLED SURFACE FINISH
- FASTEST STOCK REMOVAL
- POSITIVE ADJUSTMENT
- PORTABLE, YET RUGGED
- OPERATES IN ANY POSITION

Your Sunnen Field Engineer will be glad to help you solve your sizing problems at no obligation to you.

SN-75 Midget Hone	Range 1 3/4" to 2"
JN-95 Junior Hone	Range 2" to 2 5/8"
AN-112 Standard Hone	Range 2 1/2" to 7"
AN-812 Heavy-Duty Hone	Range 4 3/4" to 20 1/2"

WRITE FOR FREE BOOKLET!

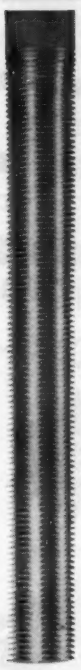
Find out how SUNNEN PORTABLE HONES can help you in your everyday shop work.



SUNNEN PRODUCTS COMPANY
HONING
7933 Manchester Ave. • St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario

7269

▲ For more details circle NED-334 K on enclosed inquiry slip ▲



INCREASES
Heat Exchanger Capacity

Carpenter
INTEGRAL-FINNED
Stainless Tubing

Has 2½ times greater O.D. heat transfer area than plain-surface tubing of equivalent size • Readily adaptable for increasing effective throughput of existing plain-tube heat exchangers (straight-tube and U-tube types), coil assemblies or other tubular arrangements for heating and cooling functions • Can eliminate outlay for additional heat transfer units • Saves space and material requirements for new units • Available with continuous or spaced finned sections • Lengths up to 25 ft. in sizes, gauges and stainless analyses generally used in heat exchangers • Full-finished heat exchanger quality • Obtain prices, delivery and other details on your requirements from local Carpenter representative or the mill • Ask for Bulletin IFT.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.

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For the finest in friction, rubber or plastic tape, always look to ACCURATE . . . suppliers of "your best buy in tape."

Non-raveling
Straight tearing
High tensile strength
Strong adhesion
Highly insulating

ACCURATE TAPE
FRICTION ··· RUBBER ··· PLASTIC
ACCURATE MANUFACTURING CO.
Garfield, New Jersey

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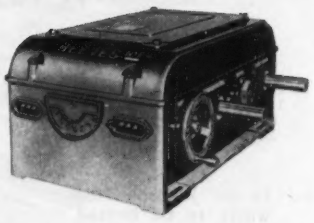
REEVES
***Vari-Speed* TRANSMISSION**



A tough dependable unit, that provides wide range variable speed from any constant speed source. The all-mechanical Reeves Transmission easily handles shock loads and transmits high torques, continuously, without failure.

Stepless speed changes are provided by two pairs of adjustable cone-faced discs mounted on parallel shafts. The output shaft transmits power through a range above and below the constant input speed. Speed changes accomplished with a turn of the handwheel or with automatic or remote controls.

Available ¼ through 87 hp., with speed ranges of 2:1 through 16:1. Integral single stage gear reducers available 1 through 7½ hp.

WRITE TODAY for Reeves Bulletin G-5812 and get all the facts. G-1646

RELIANCE ELECTRIC AND ENGINEERING CO.
Dept. 2410A1 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

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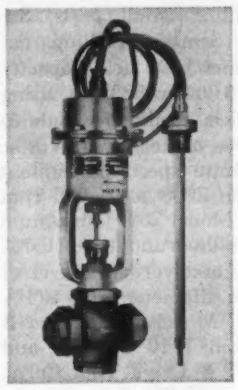
TEMPERATURE REGULATORS
line includes models for varied uses in a wide range of ratings

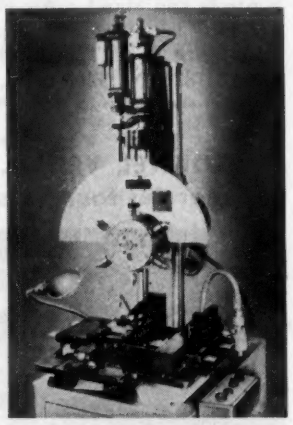


Uniform fluid temperatures are maintained in open or closed tanks, kettles, hot water heaters, hot water converters, various types of washing machines, and other equipment with this line of bellows motor operated temperature regulators. All units feature one piece semi-steel superstructure, stainless steel valve stem, corrosion resistant calibrated spring, and enclosed spring and adjusting screw. Type 1010 and 1020 regulators are made in ½ to 5 in. and ⅜ to 2 in. sizes, respectively, with union or female screwed ends or flanged bodies of bronze or semisteel. Ten temperature ranges from 60-100 to 220-260° F are offered.

Also included in this line of regulators for mixing steam or hot water to regulate temperatures are three-way mixing or bypass, reverse acting, and several pilot operated types. According to size and type, they handle steam pressures to 200 psi and heat up to 75,000 gph of water with 100° F rise. Maximum size range is up to 8 in. • **Warren Engineering Co.**, Route 24, Broadway, N. J.

▲ For more details circle **NED-338 K** on enclosed inquiry slip ▲

AUTOMATIC TURRET DRILL
6-spindle turret synchronized with controls of manual positioning table



Bench model automatic six-spindle turret drill with power feed is synchronized with the controls of accessory manual positioning table to speed precision drilling, reaming, and tapping operations. The free-floating table, mounted on ball bearings, rapidly locates hole center within 0.0005 in. A pointer over a template of the hole pattern guides operator to each position.

Machine control permits manual operation with power feed; semiautomatic operation through predetermined cycles with manual loading and unloading; or full automatic cycling using shuttle tables, index tables, and hopper feeds. Drill and tap capacity is ¼-in. holes in steel, and working area of table is 4 x 5 in. • **Burgmaster Corp.**, 15001 S. Figueroa St., Gardena, Calif.

▲ For more details circle **NED-339 K** on enclosed inquiry slip ▲

Duty Master

a brand new A-c. motor

New design gives users better protection from the inside out, simplified lubrication, better response and improved all around performance. The Duty Master a-c. line, from protected to totally-enclosed, explosion-proof, 1 to 250 hp. is ready for delivery *now*.

NEW DUTY MASTER BULLETIN now available with specific information about its advanced engineering qualities and design features. Write for B-2106. B-1646

RELIANCE ELECTRIC AND ENGINEERING CO.
Dept. 2410A CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
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"Sure-Flex" Couplings 4-way flex is . . .

. . . A "SURE CURE" FOR SHOCK, VIBRATION, SHAFT MISALIGNMENT

Unique design and 4-way flex enable Wood's "Sure-Flex" Couplings to absorb not only all types and combinations of misalignment and end-float . . . but up to 15 times more shock and vibration than other leading flexible couplings. Only four basic, easily installed parts. No clamps or screws. No wear, no lubrication or maintenance. Unaffected by abrasives, dirt or moisture. Operation is noiseless. WRITE FOR BULLETIN 5103.

T. B. WOOD'S SONS COMPANY
CHAMBERSBURG, PENNSYLVANIA
ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

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INSURE *Proven Quality* with JONES PLUGS AND SOCKETS

P-306-CCT Plug, Cable Clamp in Cap. Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting. S-306-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross-section of 5/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 45 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

Ask for Jones Catalog No. 22 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

Jones
HOWARD B. JONES DIVISION
CINCH MANUFACTURING COMPANY
CHICAGO 24, ILLINOIS
DIVISION OF UNITED-CARR FASTENER CORP.

▲ For more details circle **NED-342 K** on enclosed inquiry slip ▲

Master Gearmotors

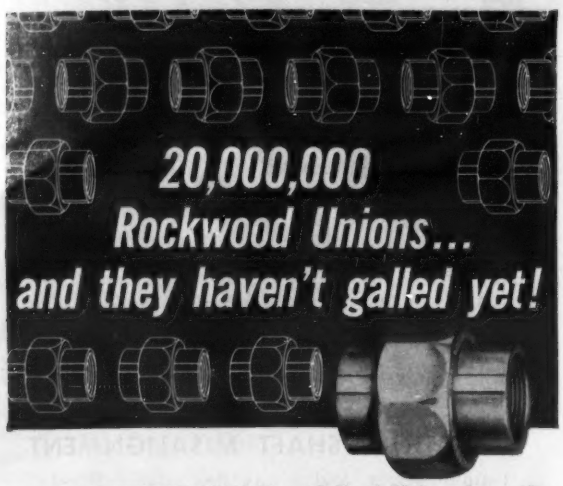
matched motor and right angle reducer in one compact power package

Reduce engineering and assembly costs—eliminate separate components with this Master Gearmotor. No high speed couplings, V-belts, chains and sprockets required. Takes up less space—reduces mounting plates and maintenance. Available in ratings from ⅛ to 125 hp. in right angle, parallel or in combination. Wide choice of electrical and mechanical modifications . . . vertical, horizontal flange, and face mountings; output shaft over, under, left or right.

Write for full information, or call your nearest Reliance Sales Engineer. B-1647

RELIANCE ELECTRIC AND ENGINEERING CO.
Dept. 2410A2 CLEVELAND 17, OHIO
Canadian Division: Toronto, Ontario
Sales Offices and Distributors in Principal Cities

▲ For more details circle **NED-343 K** on enclosed inquiry slip ▲



Only ROCKWOOD Cold Forged Steel Unions have the hardness differential which *assures* fast, easy make-up, a tight seal, and freedom from galling. Male seat is heat-treated to a hardness substantially higher than the female seat. Then both seats are forged in place and double-locked under 100,000 and 400,000-pound pressures. Other outstanding features include: special color-coding for instant identification . . . Rockwoodizing which gives all surfaces *positive* protection against corrosion, interchangeable parts. Get complete information now. Write for facts to Rockwood Sprinkler Division, 964 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER DIVISION

of The Gamewell Company • A Subsidiary of E. W. Bliss Company
Distributors in all principal industrial areas

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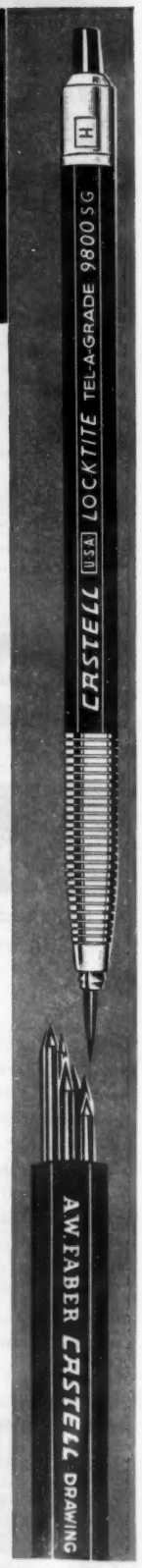
You pay so little more for unequalled A.W.Faber-CASTELL LOCKTITE quality...



6 good reasons WHY your choice should be LOCKTITE TEL-A-GRADE 9800 Lead Holder

1. Functional no-slip grip —*reduces finger fatigue.*
2. Gun-rifled clutch —*grips the lead like the jaws of a bulldog.*
3. Easy action push-button —*no thumb strain.*
4. Perfect balance —*feels like a wood pencil.*
5. TEL-A-GRADE degree indicator.
6. Featherweight lightness —*effortless to hold.*

Another important plus in LOCKTITE 9800 is decades of manufacturing know-how, backed by a guarantee. *If it ever happens that any part of a LOCKTITE Holder breaks in normal usage, the entire holder will be replaced free of charge.* Buy quality, buy CASTELL. See your dealer today.

#9030 CASTELL Black Gold Refill Leads are ideally mated with LOCKTITE. This superb lead is available in full range of degrees: 7B to 10H. Draws perfectly on all surfaces, including Cronar and Mylar base films.

A.W.Faber-Castell
Pencil Co. Newark 3, N. J.

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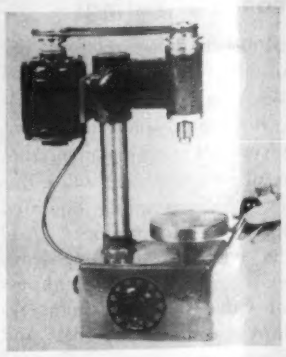
SENSITIVE DRILLING MACHINE
speed adjustable to 11,000 rpm



Designed for precision drilling small parts, Super Sentitive drilling machines have drill capacity of 0.004 to 5/32 in. using collets. Drills are made in three models, with Variac infinite speed adjustment from 2000 to 11,000 rpm on Model 200. Maximum spindle runout is 0.002 in., and vertical travel of 4-in. diameter table is 1¼ in. Models 300 A and B provide four spindle speeds from 1710 to 4900 and 3400 to 9600 rpm, respectively. • **Lloyd Tool Corp.**, 3330 E. Colorado Blvd., Pasadena, Calif.

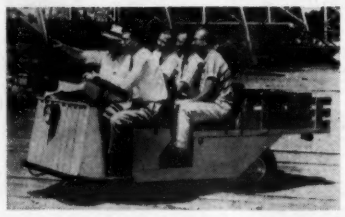
▲ For more details circle **NED-347 K** on enclosed inquiry slip ▲

COMPACT AIR PRESS
notches pipe, tubing for joining

This compact air-operated press is built to accommodate the Vogel Arc-Fit device which notches standard pipe and tubing to form perfect welding and brazing joints. The Arc-Fit equipped press can notch standard pipe up to 2 in. OD and tubing up to 2⅜ in. OD at a rate of 1000 pieces per hour. Press shown is rated at 8 tons and is complete with operating controls and stand. Arc-Fit notcher is purchased separately. • **Vogel Tool & Die Corp.**, 1825 N. 32nd Ave., Stone Park, Ill.

▲ For more details circle **NED-348 K** on enclosed inquiry slip ▲

PERSONNEL VEHICLE
carries four passengers and operator



Three - wheel No. 734 electric Truckster personnel vehicle will carry four passengers, and an operator, and has an additional flatbed area of 45⅝ x 41½ in. With one operator and one passenger, carrier has 1000-lb payload capacity. It will operate in 50-in. wide passageways and travel 50 miles without need to recharge batteries. Carrier is powered by a 2.5-hp, 36-v dc motor and has automotive type steering with coil-spring suspension. It turns in 6-ft 10-in. radius and can travel up to 15 mph forward and 6 mph in reverse. • **Cushman Motors**, 900 N. 21st St., Lincoln, Nebr.

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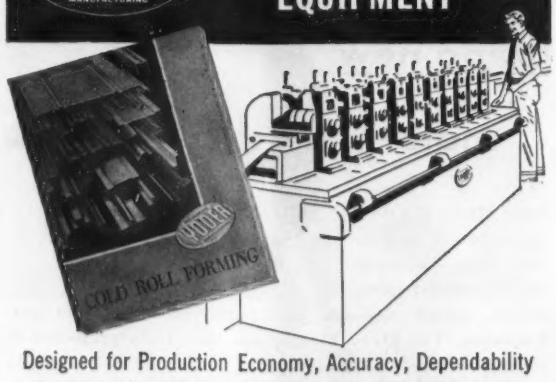
ENGINEERING YODER MANUFACTURING

COLD ROLL-FORMING EQUIPMENT



Designed for Production Economy, Accuracy, Dependability

Send today for this 92 page handbook "Cold Roll-Forming". It thoroughly covers production of structural and ornamental shapes from stock up to ½" thick . . . reviews economic and mechanical possibilities of cold roll-forming . . . illustrates end uses and applications of roll-formed shapes.

THE YODER COMPANY
5547 Walworth Avenue • Cleveland 2, Ohio
Please send my copy of Yoder's "Cold Roll-Forming"

NAME _____
COMPANY _____ POSITION _____
ADDRESS _____
CITY _____ STATE _____

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NEWS FLASH:

PARKER proves one man can sweep 50,000 sq. ft. per hour

Turbo-Sweep "40"

Self-propelled, controls at hand level. Collects all debris. Dust bag and trash hopper emptied in seconds. Free catalog.

Dept. NE

Parker SWEEPER COMPANY BOX 720, SPRINGFIELD, OHIO

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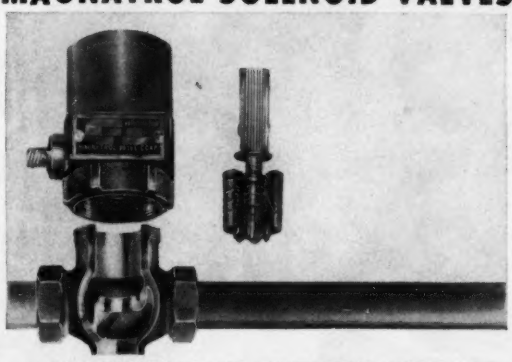
MAGNATROL SOLENOID VALVES



. . . ARE RUGGEDLY AND ACCURATELY CONSTRUCTED TO GUARD AGAINST COSTLY FLOW FAILURES.

The entire operating mechanism of Magnatrol Solenoid Valves can be **cleaned, repaired** or **replaced** WITHOUT removing the valve body from the pipe line or breaking flexible electrical leads.

This unusual design advantage plus the fact that every Magnatrol Valve is CUSTOM ASSEMBLED and FACTORY TESTED . . . means greater dependability.

Available in normally closed and normally open models, in pipe sizes from ¼" to 3". Pressure ranges from zero up to 500 psi.

Catalog containing complete specifications mailed upon request.

Magnatrol VALVE CORPORATION
Hawthorne 6, New Jersey

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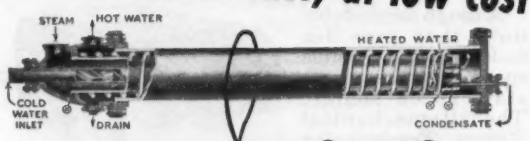
STEAMLINED!
to heat water fast, at low cost



In the Johnson Heater, water to be heated is routed first inside, then outside, a blanket of live steam. It's full pressure steam, too; up to 150 lbs., or 250 lbs. in heavy duty types, no reducers are needed. The result: faster, more efficient heat transfer for a unit of its size. No wonder industry has found so many applications for the Johnson "Instant" Heater, in heating water and process liquids of various types.

JOHNSON "Instant" HEATER

Sizes for all needs; write for literature

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

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Although frequently associated with tools and dies, self-locking UNBRAKO shoulder screws with Nylok* find widespread application throughout industry to replace costly machined parts.

Eliminate downtime and die damage with Self-locking UNBRAKO Shoulder Screws

- Permanent self-locking feature in threads keeps them tight—eliminates downtime for checking fasteners, protects against die damage
- Unified Class 3A fit threads, .001 inch shoulder diameter tolerance, controlled concentricity assure accurate assembly
- Sizes from ¼ through ¾ inch in a wide range of lengths

Contact the authorized SPS distributor nearest you. Or write SPS—manufacturer of precision threaded industrial fasteners and allied products in many metals, including titanium.

INDUSTRIAL FASTENER Division SPS

JENKINTOWN 24, PENNSYLVANIA

*T.M. Reg. U.S. Pat. Off., The Nylok Corporation

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air and steam pipelines are now cleaned without filters

Today you add months of service life to air and steam equipment without increasing maintenance. Hi-eF Purifiers clean pipelines without the use of a troublesome filter element that needs frequent replacement. Yet these absolutely maintenance-free purifiers deliver the cleanest, driest air and steam possible.

BULLETIN 503 tells the remarkable story of the Hi-eF Purifier design. Write.

THE V. D. ANDERSON CO. 1988 W. 96th St., Cleveland 2, Ohio

DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION

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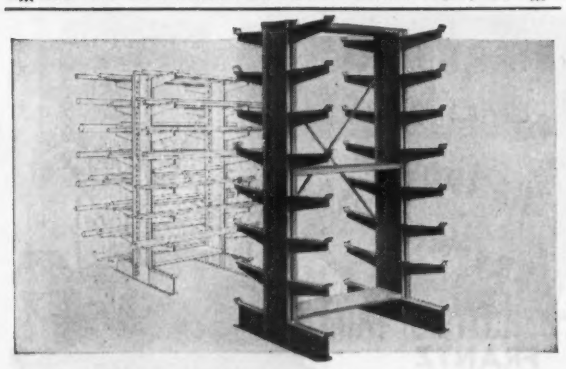

New REPUBLIC BAR RACK
solves stock and store problems

The new Republic Bar Rack is the ideal solution to the practical, economical way to store bars, pipe, rods, any elongated stock. Adjustable arm arrangement allows for easy access and stock segregation.

Compact, too, 78" high, 36" wide, and 33" deep at the base. Call your Republic-Berger representative. Or write for information.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. · Canton 5, Ohio

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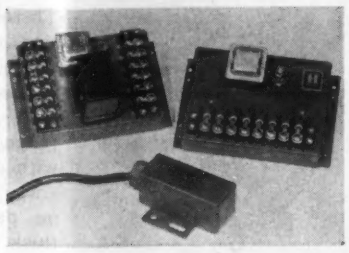
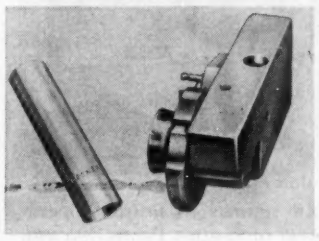
PROXIMITY SWITCH AMPLIFIER
almost doubles operating rate



When the transistorized amplifier (right) is used in place of the vacuum tube amplifier (left), the operating rate of the Honeywell proximity switch is increased from 600 to over 1100 operations per minute. The proximity switch (foreground) begins to function as soon as it is energized, since no amplifier warmup is required. The amplifier is easily adjusted for sensitivity ranges from 1/16 to ½ in. at the switch and can be mounted up to 150 ft away from the sensor using nonshielded wire. Both the switch and amplifier operate on 110 v, 60 cycles ac. • **Minneapolis-Honeywell Regulator Co.**, Machine Controls Div., 2747 Fourth Ave. S., Minneapolis 8, Minn.

▲ For more details circle NED-357 K on enclosed inquiry slip ▲

MARKING ATTACHMENT
for screw machines, turret lathes



Round, hollow, or solid stock can be imprinted by the Rol-A-Matic attachment, designed for turret lathes and screw machines with from one to six spindles. The automatic unit is attached to either front or rear cross-slide and consists of only two moving parts. Price is $75. • **Sossner Steel Stamps, Inc.**, 161 Grand St., New York 13, N. Y.

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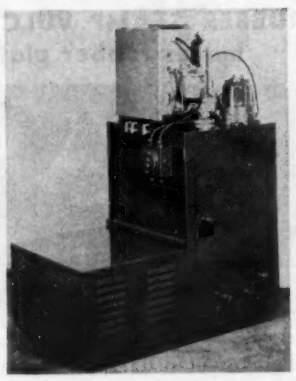
VISCOSITY CONTROL
for in-line applications



Fluid is removed from a pressurized line, its viscosity measured, and then it is returned to the line by the Stream Analyzer, an integrated viscosity controlling package. When used with the Viscometran, it will make viscosity measurements of fluids up to 550° F in lines with a maximum pressure of 150 psi. A safety purging system, explosionproof overload switch, and a safety overflow port are incorporated. • **Brookfield Engineering Laboratories, Inc.**, Stoughton, Mass.

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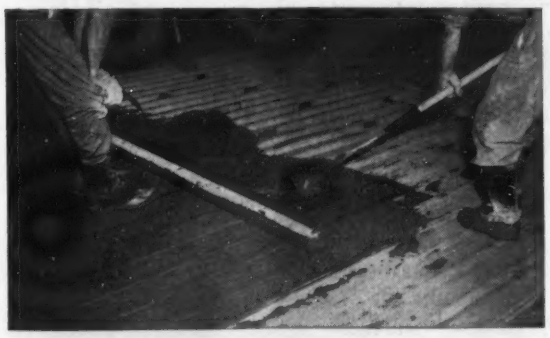

Save time and money with TRUSCON 24" FERROBORD FORMS for CONCRETE SLABS

Economical...eliminates both cost of materials for temporary shoring, and time for erection and removal. Long spans eliminate close supporting beams, reducing costs for structural supports. And, 24" FERROBORD® covers more area faster. Send for Brochure K-132.

REPUBLIC STEEL
TRUSCON DIVISION
Youngstown 1, Ohio
NAMES YOU CAN BUILD ON

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Your Problems in moving AIR DUST FUMES AND MATERIALS easily solved with FLEXAUST® HOSE

Both Flexaust hose and Portovent retractable duct are made of neoprene coated fabrics and wire reinforced, and have service-proven their dependability and durability in thousands of installations since 1938. Easy to cut, couple, connect, reuse, relocate, they can be installed in minutes to give years of service. Sizes from 1¼ to 36" i.d.

WRITE TODAY FOR DETAILS
"Distributors in all principal cities"

THE FLEXAUST COMPANY
Dept. NED-10 100 Park Avenue, New York 17, N. Y.

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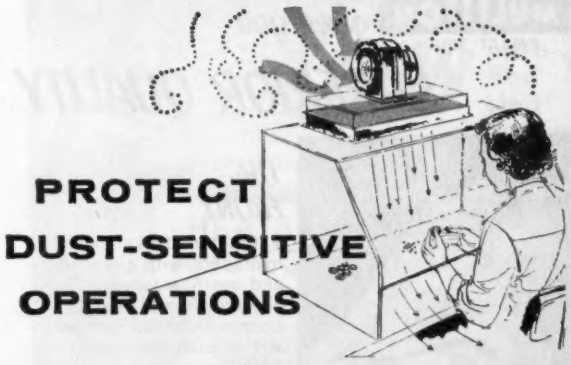

PROTECT DUST-SENSITIVE OPERATIONS
with MICROVOID* Dust Hoods "Plexiglas" or Metal

Eliminate dust from miniature bearings, semiconductors and electro-mechanical components—products even "clean rooms" can't adequately protect.

MICROVOID enclosures provide a screen of moving air—filtered to 0.5 micron diameters — positively preventing dust from entering working area.

Standard and custom-built types in "Plexiglas," steel, aluminum or stainless. Many optional features — entries, scope, tool & arm ports, etc. GET COMPLETE FACTS by writing today or call OSborne 5-5200.

*Trademark

AIR-SHIELDS, INC. INDUSTRIAL DIVISION
HATBORO, PENNSYLVANIA

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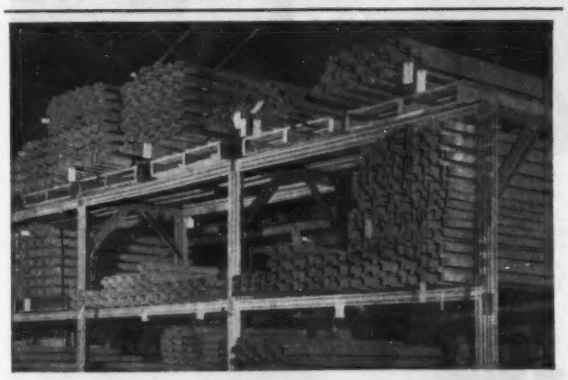

Republic METAL LUMBER
...faster, stronger, safer framing

Republic METAL LUMBER® solves framing problems fast. Simply measure, cut, assemble, with bolt and nut fasteners. Slotted angle pattern provides greater flexibility. Made of cold rolled steel for greater strength. Bonderized and enameled.

Available in two gages, two widths, in standard bundles of 10- or 12-foot lengths, which include self-locking bolts and nuts. Order from your Republic-Berger warehouse. Write for data.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. · Canton 5, Ohio

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Does R & D on Your Product Involve Bearing Problems?

Write for McGill Brochure No. 660, a bulletin of facilities and abilities. It explains how we can help you on your bearing application problems in the early stages of product research and development.

engineered electrical products
McGILL®
precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.
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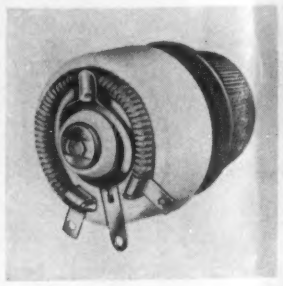
POWER RHEOSTAT
25-w unit also a potentiometer



Three-Terminal construction of this 25-w-RE-25 power rheostat allows its use as a potentiometer as well. Standard resistance range is 25 to 500 ohms with ±10 per cent tolerance. Rheostat mounts on panels up to ¼ in. thick. Shafts are insulated from all live parts. Off positions are available in dead lug type, and detent action is available at both ends of rotation. • **Tru-Ohm Products**, 2800 N. Milwaukee Ave., Chicago 18, Ill.

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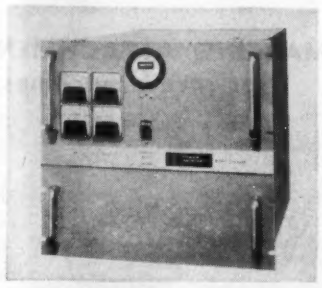
SINE-WAVE POWER SUPPLY
transistorized unit rated in 1 kva



Transistor - regulated Model PS3210 Sineverter sine-wave power supply, rated 1-kva output on 105-125 v dc input, features a simplified proprietary circuit which cannot be damaged by overload, short-circuit, or open-circuit operation. No fuses, relays, or cutouts are required, and unit returns to normal operation immediately on removal of fault. Protection can be provided against input surges up to twice the normal rating. Line regulation is better than 6 per cent; load regulation, better than 5 per cent from no-load to full load. Standard rack mounted unit has 17½-in. panel height and weighs 180 lb. • **Power Sources, Inc.**, Burlington, Mass.

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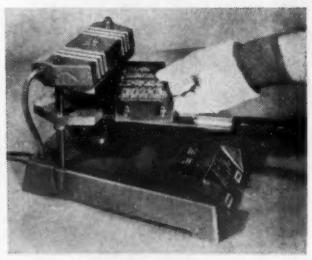
RUBBER STAMP VULCANIZER
makes rubber plates up to 3 x 5 in.



Ready - to - use rubber stamps or rubber printing plates in all sizes up to 3 x 5 in. can be made in less than 30 min with the Rubber Stamp Vulcanizing Press. The 11-lb, table top or bench unit operates on 110-120 v ac. Reversible type chase accommodates all standard printer's type, linotype slugs, or electros, separately or in combination. Heat and pressure platens are automatically controlled. • **Warner Electric Co.**, 1512 W. Jarvis Ave., Chicago 26, Ill.

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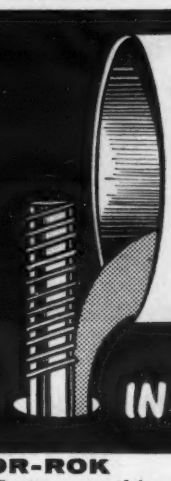
POR-ROK (POUR ROCK) ®



ANCHORS BOLTS PERMANENTLY IN CONCRETE

IN 30 MINUTES!

POR-ROK
1. Fastens anything into concrete—PERMANENTLY—in minutes
2. Lowest cost
3. Mixed with water and poured into place
4. Applied cold
5. Self-leveling, self-bonding, oil resistant, never shrinks
6. Compression strength 4,500 psi in 1 hour

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1937

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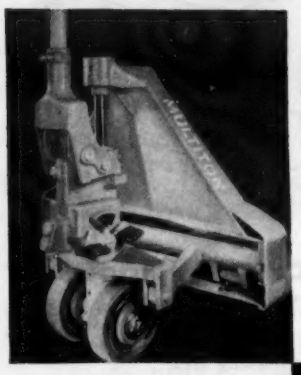
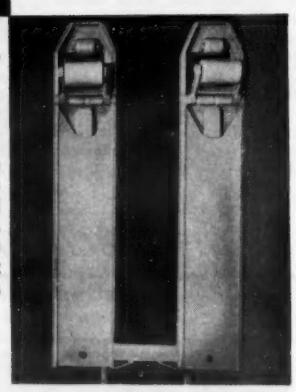
MULTITON PALLET TRUCK gives you

SUPERIOR QUALITY



UP FRONT
- Patented leakproof hydraulics with overload and overflow valves
- Hard-chrome plated pistons in honed cylinders
- Precision-machined oil lines—no pipes, no tubings, no packings
- Magnetic oil filter



DOWN UNDER
- Box-section type push rods
- Taper roller bearings on load rollers
- Torsion-proof hardened joints
- Effortless operation through pallet entry & exit rollers

OVER-ALL
- Hand-operated 7¾" lift in only 3 strokes
- Constant lowering speed regardless of load
- All valves easily accessible from outside
- Fully enclosed forks give maximum clearance

Full 6 months warranty

MULTITON FULLY HYDRAULIC
PALLET TRUCK

Capacities: 2200, 3500, 4400 lbs. Skid adaptors and/or brake optional. Available in all standard fork lengths with full variety of wheels to fit every requirement. Write for full information.

STOKVIS MULTITON CORP.
18 SECATOAG AVE., DEPT. NED, PORT WASHINGTON, NEW YORK
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ZIPPERTUBING®
Instant Covering for All Applications!

Zippertubing, an economical on-the-job method of jacketing, is a flat tape, available in a wide range of materials, that has a patented extruded plastic track electronically welded to both edges.

GENERAL PURPOSE Standard without overlap. Generally conforms to MIL-I-631C.

MILITARY TYPE with overlap Type 74 meets requirements of MIL-I-7444B. Type 63 meets MIL-I-631C. QPL certificates of conformance or test reports furnished on request.

PAT. AND PAT. APP. FOR

SHIELDED ZIPPERTUBING® Available in aluminum or copper. These conductive metals are laminated to vinyl-impregnated Nylon or glass cloth. Zipped around wires, it provides immediate 100% coverage for grounding RF and UHF interference.

THERMAZIP Protects cables or pipes from high temperature exposures. Type ALAS utilizes aluminized asbestos cloth. Type ALSR utilizes silicon rubber-impregnated glass cloth.

ZIPPROTECTORS® New protective plastic covers with plastic zipper closure for splices and break-outs. Installation time is measured in minutes — not hours! Full range of sizes and colors.

SPECIAL CONSULTATION At your request, our Field Engineer will call or you can mail your design concept to us for evaluation and quotation. All requests confidential.

THE Zippertubing® CO.
752 S. SAN PEDRO STREET, LOS ANGELES 14, CALIFORNIA • PHONE MA 4-6664

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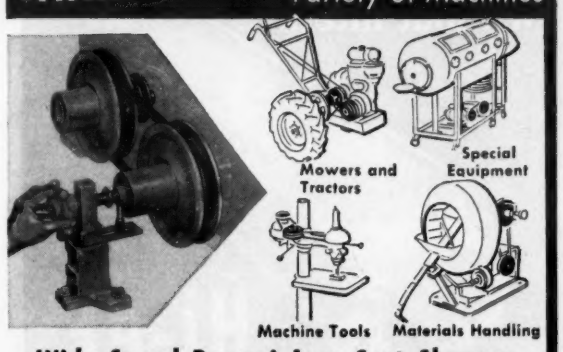
SPEED SELECTOR VARIABLE PITCH SHEAVES
Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO
▲ For more details circle NED-371 K on enclosed inquiry slip ▲

START HERE TO GET RID OF THE IRON IN DRY MATERIAL

FRANTZ FERRO FILTER®
MAGNETIC SEPARATOR

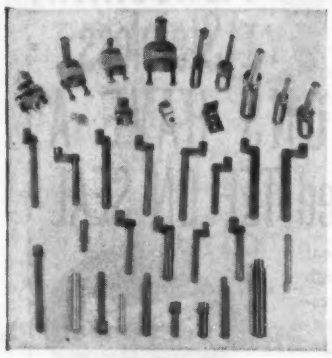
An extremely simple but highly effective method of extracting iron particles from powdered and granular materials that you manufacture, buy, sell, or use in processing. Made in two sizes with capacities from 1 to 25 tons per hour depending on the nature of the material. Other FERROFILTERS available for handling liquids and slurries.

Send for BULLETIN 56-T

S. G. FRANTZ CO., Inc.
5610 Kline Ave. at Brunswick Pike
P. O. Box 1138 Trenton 6, N. J.

▲ For more details circle NED-372 K on enclosed inquiry slip ▲

UNIVERSAL MOUNTING BRACKETS
fit Carter guides to any band saw machine

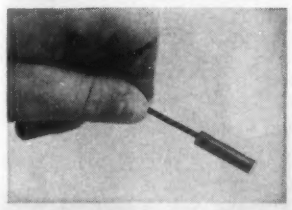


Any band saw machine can now be fitted with Carter band saw guides for safe, trouble-free operation at any speed or load. A new line of mounting brackets contains models for any machine, including upper mountings for use where space between post and blade is extremely limited and lower mountings for machines with eccentric bushings or offset mounting holes. The new brackets permit ready replacement of any old style #2, #1, #0, #00 or three-roller type guide with new Carter GUIDALL "400" or MICRO-PRECISION Guides. Catalog and prices available on request to the company. **Carter Products Company, Inc.,** 421 Helmer Bldg., Grand Rapids 2, Michigan.

Advt.

▲ For more details circle **NED-373 K** on enclosed inquiry slip ▲

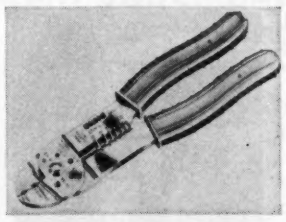
RESISTANCE THERMOMETERS
sense temperature for processing



A positive change of resistance of more than 3 ohms occurs for each degree Centigrade change in temperature in Model S29 resistance thermometers. They are used as remote or proximate detectors in flashing signs and in industrial processing and control applications. Potted construction in filled epoxy case permits immersion in most gases and liquids. The 1⅛ in. long, 5/16 in. diameter units mount in standard fuse clips, or can be suspended by the leads. Resistance is 676 ohms, ±½ per cent, at 25° C, and operating range is −55 to 100° C. Prices range from $16.90 to $13 each, depending on quantity. • **Minco Products, Inc.,** 740 Washington Ave. N., Minneapolis 1, Minn.

▲ For more details circle **NED-376 K** on enclosed inquiry slip ▲

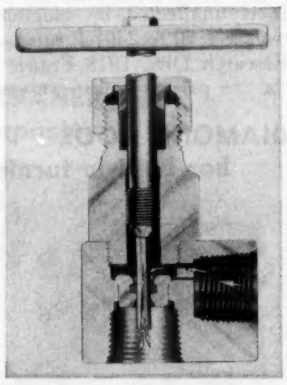
TERMINAL CRIMPING TOOL
also cuts wires and shears bolts



Both insulated and non-insulated terminals and connectors can be crimped with the CT-3050 universal crimping tool. Actually four tools in one, it crimps all terminals in wire ranges 22 through 10 gage, cuts wire, strips wire, and cleanly shears bolts and screws in 4-40, 6-32, 8-32, 10-24, and 10-32 sizes. • **Waldom Electronics, Inc.,** 4625 W. 53rd St., Chicago 32, Ill.

▲ For more details circle **NED-377 K** on enclosed inquiry slip ▲

FLOW CONTROL VALVE
delivers as little as 10 drops/hr



Control of ultra-small amounts of liquid or gas is possible with the Micro-Flow valve, rated to 10,000 psi. At 5000 psi, valve can be throttled from 3 ccpm to 5 gpm. At lower pressures, the valve will deliver as little as 10 drops per hour. Flow coefficient of as low as 0.003 to zero is controlled linearly over stem travel of ⅝ in. Made of carbon steel, stainless steel, or bronze, the angle pattern valves have Teflon, synthetic rubber, or stainless steel flow seals. Air diaphragm actuated units are also available for 3 to 15 psi signal or 125-psi air supply. Prices start at $42.50. • **General-American Valve Co.,** Box 444, Corona del Mar, Calif.

▲ For more details circle **NED-378 K** on enclosed inquiry slip ▲

SEE THE COMPLETE LINE!

HILD

TRANSFERABLE HEAD

VACUUM CLEANERS

FOR USE ON YOUR OWN 55 GALLON DRUM

WRITE FOR INFORMATION

HILD FLOOR MACHINE CO. INC. NED-69

1217 W. Washington Blvd., Chicago 7

Manufacturers of Floor Machines and Industrial Vacuum Cleaners Since 1927

▲ For more details circle **NED-380 K** on enclosed inquiry slip ▲

WHY HEAT AIR TO KEEP WORKERS COMFORTABLE?

With Panelbloc overhead gas-fired units you don't! Panelbloc generates and radiates healthful infra-red waves directly to people — it actually "Heats Like The Sun."

Panelbloc warms everything in its range — the floor, workbenches, equipment and tools. There are no fans, no motors, no moving parts. No electrical connections needed, yet thermostatically controlled.

Low in first cost, with economical installation, Panelbloc uses any commercially available gas. Gives years of perfect heating comfort.

Write for Bulletin PC 1-60 M today

PANELBLOC DIVISION

THE BETTCHER MANUFACTURING CORP.

3106 West 61 St., Cleveland, Ohio

▲ For more details circle **NED-381 K** on enclosed inquiry slip ▲

How to Prevent Loss of Blast Cleaning Efficiency with BORIUM NOZZLES

As blast cleaning nozzles wear, orifices enlarge and air velocity drops, reducing impact and cutting efficiency. Where orifices cut out or channel, patterns spread... fewer particles hit the target, again reducing cleaning speed.

BORIUM Nozzles are lined with pure tungsten carbide—hardest, most wear-resistant man-made metal. They hold original orifice size, resist cut-outs, stay on the job longer!

GUARANTEED 300 HOURS WHEN USED WITH SILICA SAND...

BORIUM Nozzles outlast hundreds of cast iron nozzles... eliminate frequent changes, save compressed air and power. Standard and special types for every requirement. Write for your free illustrated folder!

STOODY COMPANY

11992 East Slauson Avenue, Whittier, California

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SQUARE D

for a Complete Line of H.P. Rated FLOAT SWITCHES

✓ Heavy Duty
✓ Standard Duty
✓ General Duty
✓ Sumptrol

Write for Bulletin 550, Square D Company, 4041 N. Richards Street, Milwaukee 12, Wis.

Ask Your Electrical Distributor for Square D Products

SQUARE D COMPANY

wherever electricity is distributed and controlled

▲ For more details circle **NED-375 K** on enclosed inquiry slip ▲

NEW!

a SMALLER 10 Amp Relay with INDUSTRIAL FEATURES

for direct connection or plug-in

Relay shown with dust cover removed

- Three mounting arrangements
- Well suited for machine tool applications
- Molded coil
- No solder joints
- Optional pilot light
- Non-breakable nylon dust cover

WRITE FOR DETAILS

Square D Company, Dept. SA

4041 North Richards St., Milwaukee 12, Wis.

SQUARE D COMPANY

wherever electricity is distributed and controlled

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feature for feature...

THIS NEW SQUARE D VOLTAGE TESTER Tops them ALL!

for further details, write Square D Company, 1601 Mercer Road, Lexington, Kentucky

SQUARE D COMPANY

wherever electricity is distributed and controlled

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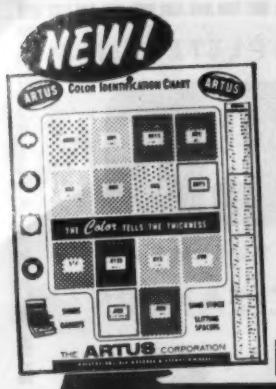


A 'MUST' WHEREVER SHIMS ARE USED

ARTUS PLASTIC SHIMS

THE COLOR TELLS THE THICKNESS

FREE Write for this handy COLOR CHART, today!

Artus Plastic Shims are real time savers in production and maintenance. They're used by many of America's best known industrial corporations because they're more efficient, more convenient, always available.

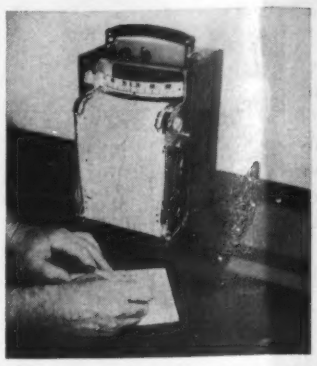
Custom shapes to your specifications.

Write for Samples and Literature or Mail Blueprint for Test Sample.

THE ARTUS CORPORATION
201 South Dean St. • Englewood, New Jersey
LOwell 7-0900
formerly INDUSTRIAL PRODUCTS SUPPLIERS

▲ For more details circle NED-383 K on enclosed inquiry slip ▲

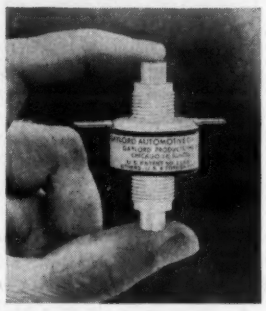
PRODUCTION RATE RECORDER
plots graph of automatic machine



This Annis production rate recorder plots directly on graph paper a complete log of performance for any automatic machine. It constantly compares actual rate with a predetermined reference rate, recording any deviation by percentage. Analysis can be set for 1, 2, 4, 8, or 16 hr. The 115-v, 60-cycle instrument utilizes an Esterline-Angus strip chart recording mechanism and weights about 24 lb. Price is $1575. • R. B. Annis Co., 1101 N. Delaware St., Indianapolis 2, Ind.

▲ For more details circle NED-385 K on enclosed inquiry slip ▲

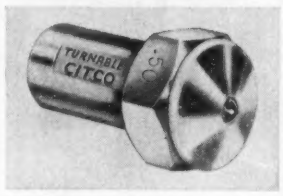
MOTION DETECTOR
has safety and warning applications



Detection of motion, regardless of how slight, and sensing a point of "zero motion" after any preceding period of motion are two of the many uses for this motion detector. Designed to sense increments of rotary motion of less than ½ rpm, it can also detect linear motion by a simple conversion to rotary motion. Device can be made for a wide range of low speed sensing requirements in automated and semiautomated operations, and as a safety and warning device. Enclosed in a nylon housing, it is 2½ in. high and weighs only a few ounces. It is unaffected by magnetic fields and will operate over a −40 to 240° F range. • Gaylord Products, Inc., Research Div., 1918 Prairie Ave., Chicago 16, Ill.

▲ For more details circle NED-386 K on enclosed inquiry slip ▲

DIAMOND TOOL
has built-in turning head



Diamond life is extended up to four times in this Turnable diamond tool which has a built-in turning head. Using a small wrench, operator can easily turn the hex-head to distribute wear evenly on diamond. Stone remains at true center throughout 180-degree turning. Tool has hardened and ground steel shank and beryllium copper head. • Citco, Chardon, Ohio.

▲ For more details circle NED-387 K on enclosed inquiry slip ▲

new Koncentrik® Stainless PIPE UNIONS HAVE A Fully Confined TEFLON SEAL

Exclusive design is ideal for high pressure and high vacuum applications. Pressure ratings — 2,000#, 3,000#, 4,000# and 6,000#. Screwed or socket weld ends, for pipe sizes ⅛" to 2". Write for catalog today.

Fully Confined

THE SPECIAL SCREW PRODUCTS COMPANY
Bedford, Ohio

SSP

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TRICKY BENDS ARE NO TRICK

With Pedrick Production Benders any bend is an easy bend—fast and economical, too! Pipe, tubing, bus bar or structural metal—*bend with Pedrick.*

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6.

"You'll profit by reading the NEW PEDRICK LINE BULLETIN. Write today."

BEND WITH PEDRICK

▲ For more details circle NED-390 K on enclosed inquiry slip ▲

MOYNO® PUMPS

MOYNO® PUMPS
capacities: from 1/100 to 500 gpm
pressures: up to 1000 psi

MOYNO pumps are available in nine sizes with capacities ranging from minimum metering flow to 500 gpm and pressures from zero to 1000 psi. Positive displacement delivers uniform discharge without pulsation, agitation or turbulence. Solutions ranging from thin watery slurry to extremely viscous paste, corrosives, abrasives and even solids in suspension are economically handled without excessive pump wear.

MOYNO's unique *"progressing cavity"* principle with only one moving part and special resistant internal parts slashes pump maintenance costs on problem materials that often ruin other pumps. Almost any substance that can be forced through a pipe can be pumped by a MOYNO.

To learn how a MOYNO can cut your pumping costs, write today for Bulletin 30-NE

ROBBINS & MYERS, INC.
motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps
SPRINGFIELD, OHIO • BRANTFORD, ONTARIO

Cutaway view of Moyno Pump

▲ For more details circle NED-384 K on enclosed inquiry slip ▲

got a SPRAY NOZZLE *problem?*

perhaps one of our DATA SHEETS *can suggest a solution*

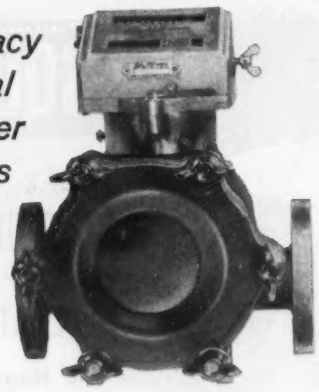
For almost every spraying application, there's a Spraying Systems Data Sheet that gives useful information on suggested installations and types of nozzles to use. If you have a problem, write and let us know the application involved . . . and we'll send the Data Sheet that applies.

SPRAYING SYSTEMS CO.
3211 RANDOLPH STREET • BELLWOOD, ILLINOIS

And . . . for complete spray nozzle information, write for Catalog 24.

▲ For more details circle NED-388 K on enclosed inquiry slip ▲

high accuracy on chemical and fertilizer applications



Badger's 2" stainless steel meter with magnetic drive

Accuracy of ±.5% (20-100 GPM) for measuring, blending, batching of liquid corrosive chemicals in manufacturing and bulk plant operation.

Rugged Type 316 stainless steel construction, simple design, easily removable cover for in-place cleaning. Magnetic drive eliminates packing gland.

Write for descriptive literature

Badger Meter Mfg. Co.
Industrial Products Division
4545 W. Brown Deer Rd. • Milwaukee 23, Wis.

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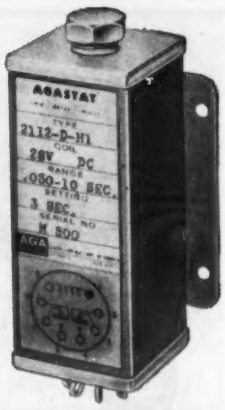
DESIGN TIMING RELIABILITY INTO YOUR CIRCUITS *specify...*



NEW MINIATURE AGASTAT®

time/delay/relays

- *Recycling* virtually instantaneous—less than .020 seconds
- Unaffected by Voltage fluctuations (from 18 to 32 volts DC)
- Repeat Accuracy ±5%

This new AGASTAT meets the environmental requirements of MIL-E-5272A. Built to withstand the rugged conditions of missile and aircraft applications. Lightweight—less than 15 ounces. Space saving—4⅝" tall . . . 1¹³⁄₁₆" wide . . . 1½" deep. Adjustable, with time delays from .030 to 120 seconds. Choice of operation for energizing or de-energizing. For complete specifications, write Dept. A37-105.

AGASTAT TIMING INSTRUMENTS
ELASTIC STOP NUT CORPORATION OF AMERICA
1027 NEWARK AVENUE, ELIZABETH 3, NEW JERSEY

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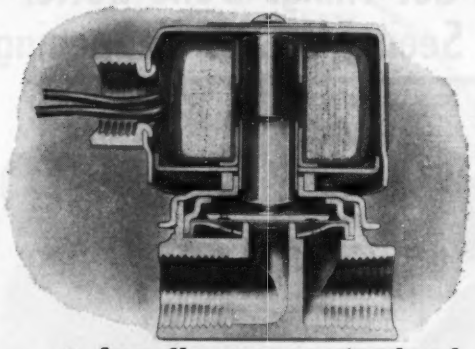
unlimited applications!



• for flow control of water, air, low pressure steam, brines, light oils, gases.

JE INDUSTRIAL SOLENOID VALVES

5/16" to 1-1/2" Port Sizes—1/4" to 1-1/2" N.P.T. Connections
Write for information bulletin today.

Controls Division
JACKES-EVANS MANUFACTURING COMPANY
4427 Geraldine Ave., St. Louis 15, Mo.

▲ For more details circle NED-393 K on enclosed inquiry slip ▲

So much EXTRA PROTECTION . . . *So little* EXTRA COST . . . *with HOWELL*

WEATHER-SPLASH PROTECTED

For just a few dollars extra . . . here's mighty important insurance where motors must work dependably *outdoors* in bad weather, or *any place* liquids splash. Only slightly higher-priced than open motors. Low-cost, life-time insurance against high-cost motor damage! A-2913A

- 1-150 hp., a.c.
- All mountings
- Rust-proof hardware
- Guarded openings
- Hexagonal no-slot bolt heads

Write for Bulletin 1010 (A, B)

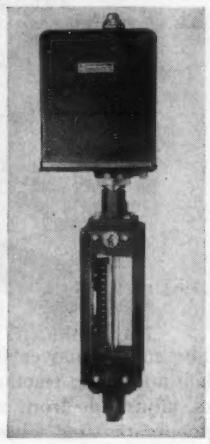
Specify for uses like these:

OUTDOORS	*INDOORS*
Subject to rain, snow, sleet, snakes, rodents, debris . . .	Subject to hosing, splashing, spraying, dripping . . .
Air conditioning	Bottling plants
Construction	Breweries
Food processing	Chemicals
Oil Fields	Dairies

HOWELL *electric motors company*
Offices in principal cities . . . see YELLOW PAGES

▲ For more details circle NED-394 K on enclosed inquiry slip ▲

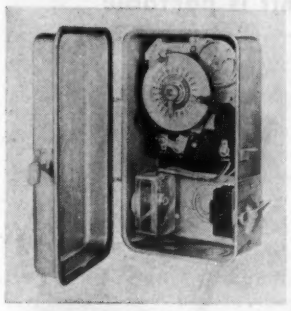
FLOW RATE METER signals abnormal high or low flows



Designed to measure rate of fluid flow, this magnetic alarm Rotameter also indicates abnormal high or low flows. It can be made to activate a warning light or alarm device and will start or stop a pump, motor, or control unit. Typical unit consists of standard 5-in. scale glass or metal tube Rotameter and sensing system which is mounted above in a weatherproof extension housing. This unit employs a float extension rod with encapsulated magnet and one or two sensing devices which are set for maximum and/or minimum flows. • Schutte & Koerting Co., Instrument Div., Cornwells Heights, Bucks County, Pa.

▲ For more details circle NED-395 K on enclosed inquiry slip ▲

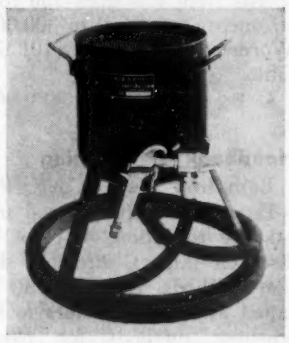
LIGHT SWITCH-TIMER rated for lighting loads to 1000 w



Photoelectric control in the weatherproof Solachron automatic electronic light and time switch automatically turns on lamps at darkness and turns them off at daylight. In between these times the clock mechanism controls the lighting according to user's requirements. Model SC-110 and illustrated Model SC-111 with emergency cut-off provision are rated for lighting loads up to 1000 w. • Solar Sonic Devices, Inc., Hicksville, L. I., N. Y.

▲ For more details circle NED-396 K on enclosed inquiry slip ▲

PORTABLE BLAST CLEANER has 50-lb sand capacity



Blasting gun of Model BC-1 portable blast cleaner has a trigger operated control. Feeding of abrasive during blasting operation is continuous. The 25-lb, 20-in. high unit has 50-lb sand capacity and is furnished with hood, blasting gun, adjustable feed elbow, screen, and 10 ft of blast hose with connection. • Bren Weld Corp., 5114 Third Ave., Brooklyn 20, N. Y.

▲ For more details circle NED-397 K on enclosed inquiry slip ▲

M-U-L-T-I C S-P-E-E-D

CONSTANT

Constant Torques	*Constant hp*
Variable Torques	*2, 3, 4 speeds*

Make you dizzy? Needn't! But . . . you may find a Howell *Multi-Speed* to be just the motor you need.

For years, Howell Multi-Speeds have proved ideal where motors must run at more than one speed, but don't have to provide variations in speed.

Your HOWELL MAN will give you expert application assistance. Call him! A-2914A

- ¼—100 hp, a. c.
- 3 or 2 phase
- 2, 3, 4 speeds
- 3600 down to 450 rpm

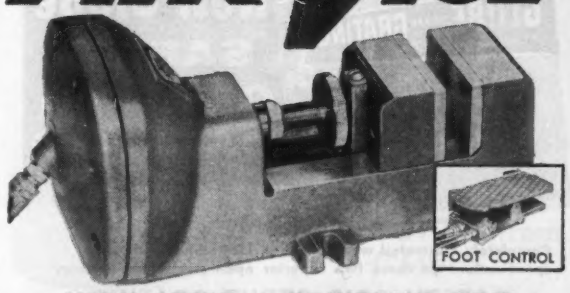
USES LIKE THESE
- Blowers, fans
- Conveyors
- Elevators
- Machine tools
- Pumps

Write for Bulletins 1005, 1015.

HOWELL *electric motors company*
Offices in principal cities . . . see YELLOW PAGES

▲ For more details circle NED-398 K on enclosed inquiry slip ▲

Speedy AIR VISE



HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**

SPEEDY AIR REGULATOR Regulates pressures 0 to 140 lbs. No. 622 $7.25

SPEEDY AIR FILTER Assures clean, oil-free air. No. 140 $4.00

SPEEDY UNIT Production spray unit with Ext. Mix Gun. No. 705 $26.50

Order from Your Supplier or Write for Air Tool Catalog
W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

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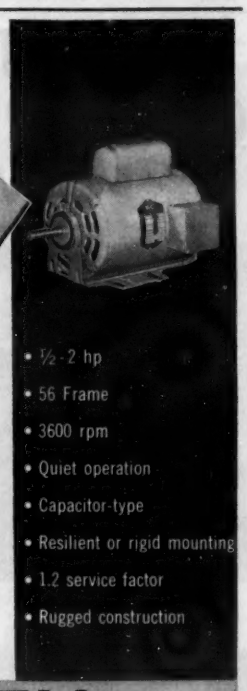
Save up to **20%** *with K-C*

BLOWER MOTORS



Specially developed for the air conditioning industry, this quiet-operating 2-pole, 3600 rpm motor has won wide acclaim for performance . . . and effected important savings in cost, for applications to package and remote-condenser units.

But, with no sacrifice in quality! You get time-proved K-C high quality.

Low cost is possible because all ratings are power-packed in the compact 56 frame. 1½ and 2 hp ratings (conventionally in integral-size 180 frames) suffer no loss of reserve power, carry the same 1.2 service factor.

A product of *Kingston-Conley, Inc., Plainfield, New Jersey* . . . A Howell subsidiary. A-2912A

- ½-2 hp
- 56 Frame
- 3600 rpm
- Quiet operation
- Capacitor-type
- Resilient or rigid mounting
- 1.2 service factor
- Rugged construction

HOWELL *electric motors company*
Offices in principal cities . . . see YELLOW PAGES

▲ For more details circle NED-400 K on enclosed inquiry slip ▲

• *second of a series*

WHAT YOUR HOWELL MAN represents and has to offer

Another brief message to our host of friends who have contributed so importantly to our growth.

Our *corporate* and *product* "Images" have changed vastly in the past few years.

Howell now also offers you the combined broad motor lines of: *The Ohio Electric Mfg. Company; Kingston-Conley, Inc.; The Leland Ohio Electric Co.*

Each is a leader in certain important areas. Each is known for certain outstanding products. Each has built on ideas, initiative, integrity.

Consolidation is now completed. *People, Plants, Products* of four formerly separate enterprises are now ONE COMPANY . . . dedicated to continued high standards of service to American Industry.

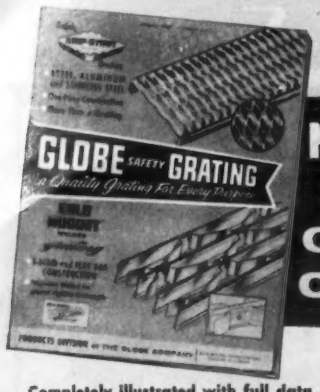
A few words about our:

engineering

Best evidence of any industrial supplier's engineering skill is "*the company he keeps.*" We are proud of the buyers we supply. Blue chip firms . . . we'll show you the list. Howell ENGINEERING is noted for good *application* as well as good *product development.* It is one of the biggest values in your purchases from Howell. A-2921A

HOWELL *electric motors company*
SUBSIDIARIES:
OHIO ELECTRIC MFG. COMPANY • LELAND OHIO ELECTRIC COMPANY • KINGSTON CONLEY INC

▲ For more details circle NED-401 K on enclosed inquiry slip ▲



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New Globe SAFETY GRATING CATALOG

Completely illustrated with full data, load charts and specifications on these two superior open steel floor gratings:

★ SAFETY GRIP-STRUT GRATING
Of one piece construction in Steel, Aluminum and Stainless Steel.

★ GOLD NUGGET WELDED GRATING
I-Beam and Flat Bar construction—projection welded for greater rigidity and strength.

For architects, consulting engineers, plant superintendents, maintenance engineers, safety engineers, contractors, builders—for every safety purpose . . . fire proof, slip proof, maximum strength with minimum weight—cool in summer, warm in winter, self cleaning. A grating for any purpose, any load, any budget.

Write for your free copy TODAY. 112

PRODUCTS DIVISION THE GLOBE COMPANY
4002 S. Princeton Ave., Chicago 9, Illinois

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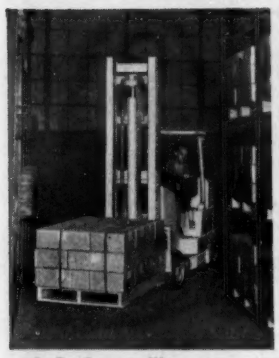
ONE TRUCK... ONE OPERATOR... DOES ALL THIS!



1. Performs like a regular fork lift truck . . .

2. Stacks left 90° in narrow 6' aisles . . .

3. Stacks right 90° in same narrow aisles . . .

4. Drives loads into trailers and boxcars!

ONLY THE NEW TOWMOTOR "NARO-AISLE-STACK" TRUCK CAN!

- Only truck of its kind for narrow 6-foot aisle stacking
- One lift truck does the work 3 trucks usually do
- Makes 36.5% of "lost" space usable in average plant

Such unique operation is made possible only because "Naro-Aisle-Stack" trucks are equipped with *Towmotor Towmostatic Drive*—the only drive of its kind that eliminates clutch, transmission, drive line, differential and shifting mechanism. Ask for booklet, "Captures Lost Space," describing the new series. Write Towmotor Corporation, Cleveland 10, Ohio.

New Naro-Aisle-Stack Trucks made only by

TOWMOTOR THE ONE-MAN-GANG ® -GERLINGER

Gerlinger Carrier Co. is a subsidiary of Towmotor Corporation

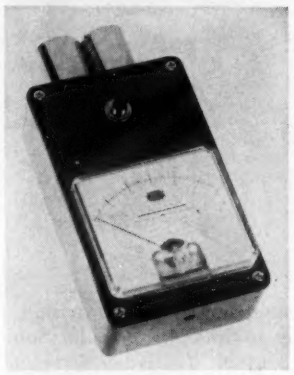
▲ For more details circle NED-403 K on enclosed inquiry slip ▲

SNOW REMOVER
self-propelled auger type unit

Snow discharge chute which rotates 360 degrees, with stops at each 45-degree increment, enables the Snow Jet 360 snow remover to be used in any location. The 20-in. wide, self-propelled, auger type unit has a shielded recoil starter and a large heat chamber to keep the carburetor and governor linkage free of ice and slush. The snow remover features a 3-hp Hi-Torque engine, belt and chain traction drive, two belt idler type clutches, adjustable front shoes, and two 2.75 x 10-in. semi-pneumatic tired wheels. It can also be hand-propelled with the two-blade, 11-in. diameter auger engaged. Tire chains are optional on the 116-lb unit. ● Jacobsen Mfg. Co., Racine, Wis.

▲ For more details circle NED-404 K on enclosed inquiry slip ▲

PHOTOELECTRIC TACHOMETER
self-contained unit is portable



Accurate speed measurement of both rotating and reciprocating machinery is possible with the Dayton Safety Tach, a photoelectric tachometer. The portable, self-contained instrument utilizes a photoelectric cell that responds to very small changes in illumination. Speed of an object marked with a contrasting chalk line or piece of tape is sensed by the cell and indicated on the meter when the instrument is aimed at the rotating marker. A built-in miniature lamp provides an intense light source when poor illumination or interfering fluctuating light exists. Three models cover all speeds from less than 100 to 24,000 rpm. Special instruments cover a 0 to 300,000-rpm range. ● Simonds Worden White Co., 1101 Negley Place, Dayton 7, Ohio.

▲ For more details circle NED-405 K on enclosed inquiry slip ▲

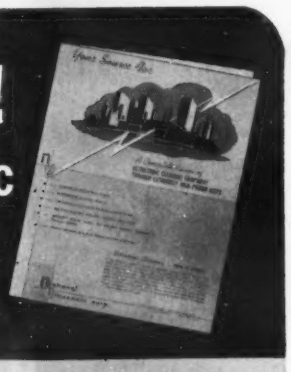
Handbook of Crushing

Bath Iron Works Corp., Pennsylvania Crusher Div. —Prepared to give a good understanding of mechanical size reduction, 40-page "Handbook of Crushing" discusses impact, attrition, shear, and pressure reduction methods. Closed-circuit crushing systems are detailed as are the factors to be considered in selecting crushing methods for particular applications and materials.

▲ For more details circle NED-406 K on enclosed inquiry slip ▲

FREE!

ULTRASONIC CLEANING BULLETIN



Describes National Ultrasonic Corporation's:

- Applications Laboratory service. Your sample parts are cleaned ultrasonically and equipment and cost recommendations are made at no charge.
- STANDARDLINE medium power cleaners for all applications requiring average energy levels.
- HEAVYDUTYLINE high power cleaners for industrial applications requiring high energy density.
- NUclean solvents and detergents especially formulated for ultrasonic cleaning.

NATIONAL ULTRASONIC CORP.
111 Montgomery Ave., Irvington 11, N. J.
ESsex 1-0550 • TWX NK 1030

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ANCHOR ANY DRILLING MACHINE IN SECONDS WITH
NEW VACUUM BASE

TRU-VAC® VACUUM BASE slips under base of practically any portable drilling machine, anchors instantly for accurate, high-speed drilling in reinforced concrete, etc. No anchor holes in floor or walls; no jack to ceiling. Exerts approximately 1000 actual pounds vacuum; instantly releases for rolling to next location and re-anchoring. Quickest set-up ever. Write for Bulletin SD-8.

Write for Distributor's name and literature

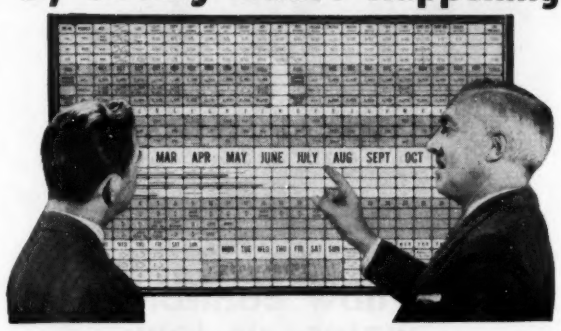
TRUCO MASONRY DRILLING DIVISION
TRUCO WHEEL TRUEING TOOL COMPANY
161-3200 W. Davison, Detroit 38, Mich.
575 Langlois, Windsor, Ont.

Write for New Catalog

HALF-A-CENTURY OF INDUSTRIAL DIAMONDS

▲ For more details circle NED-408 K on enclosed inquiry slip ▲

You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

★ Gives Graphic Picture of Your Operations in Color.
★ Facts at a Glance - Saves Time and Prevents Errors.
★ A Simple, Flexible Tool-Easily Adapted to Your Needs.
★ Easy to Use. Type or Write on Cards, Snap on Board.
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Complete Price $49.50 Including Cards

FREE — 24-Page ILLUSTRATED BOOKLET N-300 Without Obligation

GRAPHIC SYSTEMS, Yanceyville, North Carolina

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Now one wheel for any section of your plant

New Lamilon NYLON-REINFORCED ALL-PLASTIC WHEELS (patent pending)

Now you standardize on one wheel for all your materials handling equipment. Fairbanks "Lamilon" Wheels protect your floors, for they stay smooth and concentric, don't mar or mark. Not affected by oils and greases, "Lamilon" Wheels have very high resistance to most chemicals, and have a water absorption factor almost as low as high quality rubber. With their alloy steel roller bearings, hardened steel outer race and provision for pressure lubrication, "Lamilon" Wheels roll easier, last longer and give more dependable service than any other plastic wheel.

Available in sizes 3 through 12 inches. Can be furnished with thread-tight thread guards.

THE FAIRBANKS COMPANY
Valves • Dart Unions • Casters • Trucks • Wheels

Executive Office—393 Lafayette St., N. Y. 3, N. Y. • Branches—520 Atlantic Ave., Boston 10, Mass. • 393 Lafayette St., N. Y. 3, N. Y. • 15 Stanwix St., Pittsburgh 22, Pa. • 202 Division St., Rome, Ga. • Factories—Rome, Georgia and Binghamton, N. Y.

▲ For more details circle NED-410 K on enclosed inquiry slip ▲

IT'S EASY TO STRIP OFF PAINT and Solve Your Stripping Problems with—

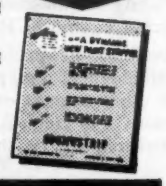
EPOXYSTRIP

PAINT STRIPPER—Saves Time and Money!

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

SEND FOR FREE BROCHURE



JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

BECK EQUIPMENT COMPANY
3350 WEST 137th STREET — CLEVELAND 11, OHIO

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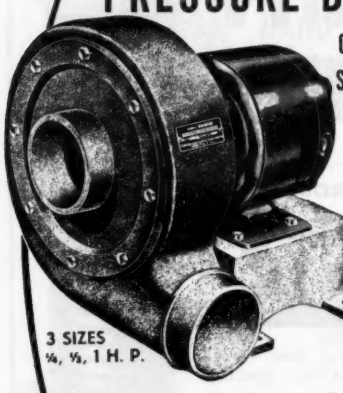
Sutton NEW IMPROVED MOTOR DRIVEN PRESSURE BLOWER



ONE-PIECE HOUSING
SELF-CLEANING WHEEL

For EXHAUSTING Dust . . Smoke Fumes . . Vapor
COOLING
DRYING
CONVEYING Cotton . . Wool Shavings
FORGE BLASTING

3 SIZES ¼, ½, 1 H. P.

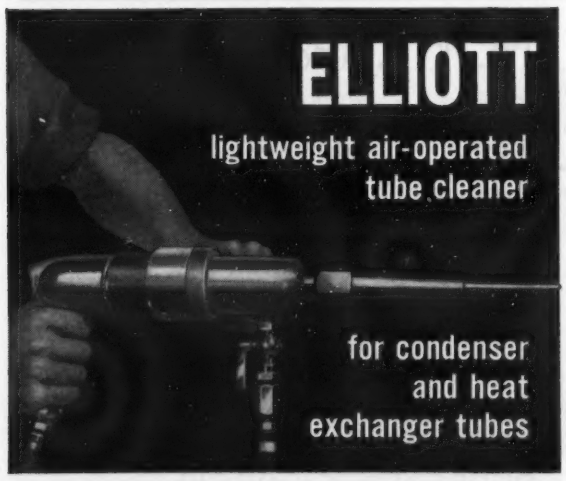
STRONG . . LIGHT CAST ALUMINUM

Even, non-pulsating air flow . . 100-800 cu. ft. per min. at ½" to 6" static pressure. Straight wall construction cuts windage . . ups efficiency. 3450 r.p.m. direct connected 60-cycle motor . . open or totally enclosed. Set discharge in 8 different positions.

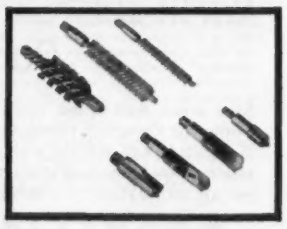
WRITE FOR DESCRIPTIVE LITERATURE

Sutton Manufacturing Corp.
112 W. WILSON AVENUE
NORFOLK, VIRGINIA

▲ For more details circle NED-412 K on enclosed inquiry slip ▲



Pistol-grip, easy to handle. High-speed air-driven motor, trigger control, gear reduction to 1500 rpm. Speed governor prevents shaft whip. Built-in oil reservoir. Integral water-feeding attachment. Brushes and heads (right) for various cleaning requirements. Send for bulletin Y-48—covers all Elliott tube cleaners and accessories.

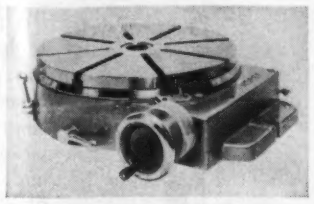


ELLIOTT Company
LAGONDA PLANT, Springfield, Ohio

V9 2

▲ For more details circle NED-413 K on enclosed inquiry slip ▲

ROTARY TABLE
has 360 one-degree indexes



Tolerances of ±10 sec are built into this 15-in. diameter rotary table. It has 360 one-degree indexes, and its worm feed may be read to 1 sec of arc. Table is equipped with a lock, worm disengage lever, and indexing lever. Included is a No. 5 Morse taper hardened and ground locating center to fit the table, concentricly accurate within 0.0001-in. The table can be made to rotate freely. • **Morey Machinery Co.**, 383 Lafayette St., New York 3, N. Y.

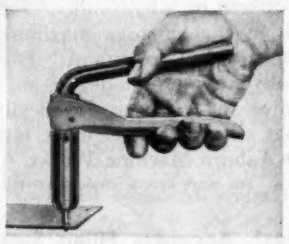
▲ For more details circle NED-414 K on enclosed inquiry slip ▲

WORK LAMP
has five light stages to 1000 ft-c

Glare-free, concentrated light for close production, critical assembly, inspection, and quality control work is provided by Model 5900 precision work lamp. It adjusts to any position on the weighted, tipproof base. A five-stage light switch located on the power supply base provides 12.2, 43.6, 80, 122, and 202 ft-c at a distance of 12 in. Used with or without a magnifier, it has a 2½-in. diameter heat dissipating shade and a G-E 1133 bayonet base lamp. Maximum current is 55 w on 115 v ac. Base also has an electric outlet. • **Tensor Electric Development Co.**, 1873 Eastern Parkway, Brooklyn, N. Y.

▲ For more details circle NED-415 K on enclosed inquiry slip ▲

RIVET GUN
redesigned with automatic ejection



Recently introduced Snapo rivet gun for blind riveting and other metal assembly operations has been redesigned for automatic jamproof operation and easier handling. The Snapo Automatic Deluxe features automatic ejection of the mandrel (nail) after rivet has been set, is about one-half the size of previous model, and has a thin nozzle for easier use in confined areas. User can insert and crimp rivets from one side, pulling parts together with up to 1500 lb of force. Kit, including rivet supply, sells for $22.95. • **Richline Co.**, 1527 E. Franklin Ave., Minneapolis 4, Minn.

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ALLENAIR
CYLINDERS • DIAL FEED TABLES
AIR VALVES & CLAMPS

NEW CATALOG AVAILABLE ON REQUEST
Write Before Next Tuesday!

ALLENAIR CORP., 255 East 2nd St., Mineola, N. Y. NED-10

Name.....
Company.....
Address.....
City.....Zone.....State.....

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8 Big Reasons Why...

Variac®
Motor Speed Controls Are Your Best Buy for D-C MOTORS from A-C LINES

1. Rated Torque at any motor speed from rated to stalling
2. NO Torque pulsations
3. Practically instantaneous Start-Stop-Reverse with ONE switch
4. NO Warm-up required — no electronic tubes — extra-long life
5. S-m-o-o-t-h, practically stepless speed variation
6. Dynamic braking on most models
7. Installation simple — low maintenance — low first cost
8. Ten models from 1/15th hp to ¾ hp d-c motors

Illustrated is Type 1701-AK for 1/15th hp dc motors: $95.00

Write for VARIAC Motor Speed Bulletin

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. NEW YORK AREA 1000 N. Seward St. LOS ANGELES 38 8055 13th St., Silver Spring, Md. WASHINGTON, D. C. 1150 York Road, Abington, Pa. PHILADELPHIA 1186 Los Altos Ave., Los Altos, Calif. SAN FRANCISCO 6605 W. North Ave., Oak Park, Ill. CHICAGO In CANADA: 99 Floral Parkway, TORONTO 15

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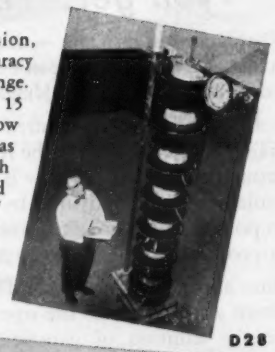
FIRST AND FOREMOST

Dillon the dependable DYNAMOMETER



Measures tensile, compression, torque or weight with an accuracy of 2% plus or minus full range. Calibrated directly in pounds. 15 *different* capacities from as low as 0-500 lbs. up to as high as 0-200,000 lbs. Equipped with maximum pointer, shackles and pins, safety glass crystal. 5" or 10" diameter dials optional. Overload protected. Extremely rugged. Priced LOW to meet average shop budget.

D28

Announcing...
DILLON DYNAMOMETER Design Manual

Published specifically for engineers, foremen, supervisors, etc., Dillon Dynamometer Design Manual illustrates and thoroughly describes almost 100 typical installations of traction Dynamometers in *all* types of industries. Measures 8½" x 11". Stiff covers. All illustrations full size. A *must* for any engineering library. Cost over $5.00 per copy to produce. Will be sent FREE to those writing for the Dillon Dynamometer story. A copy of Dillon's instrument catalog describing testing machines, thermometers, scales, etc. will be included.

W. C. Dillon & CO. INC.
14578NE Keswick Street, Van Nuys 1, Calif.

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Don't junk leaky valves – Reseat 'em!

Pays for itself on the first 2 jobs!

Reseats flat and tapered seat globe or angle valves—all bibbs, faucets—quickly and accurately. The saving, over tearing out and renewing leaky valves and fixtures, is tremendous.

Cutters operating under screw feed, leave worn, scored seats glass smooth, level, absolutely tight. The cutter rotates on a level plane and is advanced by slight turns of the feed screw until the job is done.

A guide pilot centers each cutter; a tapered cone centers each spindle. Perfect alignment is inevitable. Cutters guaranteed. Write for literature!

2" for ¼" to 2" valves and ¼" to ¾" bibbs . . $59.85
3" for ¼" to 3" valves and ¼" to ¾" bibbs . . $79.50

M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

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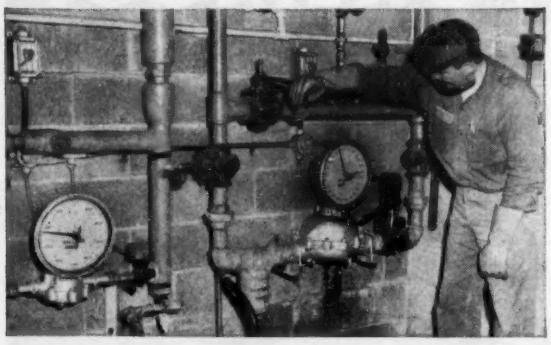
Complete Batch Uniformity

When Liquids are measured with Niagara Electricontact Meters



Niagara Electricontact Meters being used to simultaneously meter sodium hydroxide (right) and water (left) in a large eastern chemical plant.

The gallonage you set is what you get . . . EXACTLY!

Whatever your process — if you measure, meter, control or add liquids, you can be sure of absolute batch or process uniformity with Niagara Electricontact Meters.

Exacting accuracy is assured by positive displacement Niagara metering. When the required volume has passed through the meter, the flow is automatically stopped by a solenoid valve activated by the meter itself. There is no possibility of human error. Dirty sight glasses offer no problem.

Time and labor are saved. The central control station shown above permits the operator to accurately measure the dilution of caustic soda to precise process requirements without leaving his station. Since he never has contact with the caustic, the entire process is carried out in a safer fashion. Obsolete methods of dipping, rodding are a thing of the past with Niagara Meters.

Why not let us show you how Niagara Meters can improve your process? Mail the coupon today for a free catalog.

BUFFALO METER COMPANY
INCORPORATED
Subsidiary of American Meter Company, Inc.
2903 Main Street • Buffalo 14, New York

BUFFALO METER COMPANY, Inc.
2903 Main Street, Buffalo 14, N. Y.

☐ Please send me additional information on Niagara Meters.

☐ Please have representative call.

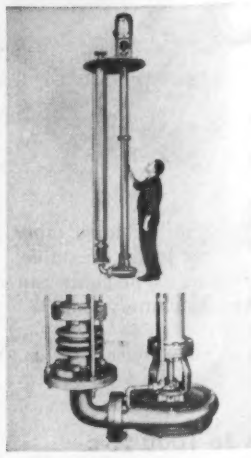
NAME _____

ADDRESS _____

CITY and STATE _____

▲ For more details circle NED-421 K on enclosed inquiry slip ▲

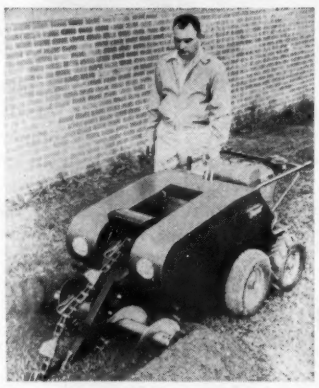
VERTICAL CENTRIFUGAL PUMPS steam jacketed to keep liquid hot



To prevent loss of heat of high temperature liquids being pumped from tanks or other vessels, this vertical centrifugal pump is steam-jacketed. Both pipe column and discharge pipe can be fitted with a steam jacket, with in-and-out steam connections located above the cover plate to avoid contaminating product with steam. Expansion joint illustrated can also be used between pump discharge and lower end of discharge pipe in cases where pit depth causes a differential in length due to unequal temperature expansions. Typical applications are in chemical processing industries where temperature of pumped liquid must be maintained. • Goulds Pumps, Inc., 214 Black Brook Rd., Seneca Falls, N. Y.

▲ For more details circle NED-422 K on enclosed inquiry slip ▲

SELF-PROPELLED TRENCHER cuts 3-6 in. wide trench 5 ft deep



Described as a "big" self - propelled trencher in a small package, the Auburn Compact will cut 3, 4½, and 6-in. wide trenches down to 5 ft deep at speeds up to 500 fph. Unit is powered by a 9-hp Wisconsin air-cooled engine and has a single unit welded body. Four-wheel drive in both forward and reverse is powered by a hydraulic drive that assures maximum trenching speed under varying soil conditions. Digging boom lifts hydraulically through 186-degree arc. Transport wheels which raise and lower hydraulically and a retractable draw bar allows trencher to be towed to job by any vehicle. • Auburn Machine Works, Auburn, Nebr.

▲ For more details circle NED-423 K on enclosed inquiry slip ▲

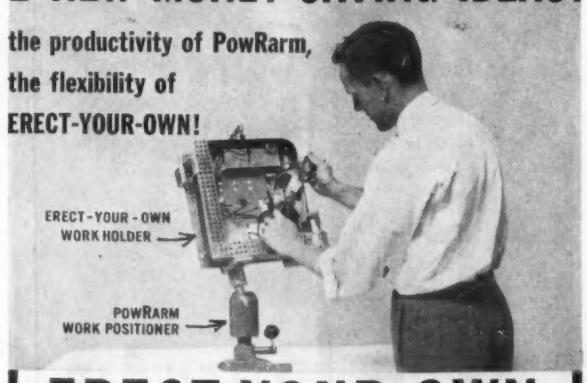
Fast, Accurate Filing System

Yawman & Erbe Mfg. Co.—"The Y & E Direct Name Filing System" is title of 12-page brochure which describes a 10-second filing and finding system that is adaptable to most business record-keeping operations. Shown are special direct name systems for geographic, subject, numeric, and decimal use.

▲ For more details circle NED-424 K on enclosed inquiry slip ▲

2 NEW MONEY SAVING IDEAS!

the productivity of PowRarm, the flexibility of ERECT-YOUR-OWN!



ERECT-YOUR-OWN *work holders*

NEW FROM WILTON . . . a versatile work holder that's perfect for light production and assembly. Quickly and easily changed for different jobs—a screwdriver is all that's needed. May be put together in any size or shape by production line operators. Use with Wilton PowRarm or bolt to bench.

ERECT-YOUR-OWN COMPONENTS . . Complete Kit No. 391 includes two 18" perforated aluminum strips, ¼" thick; three 90° connecting angles; two toggle clamps; 12 screws and nuts. Each part may also be ordered individually.

ATTACH THIS AD TO YOUR LETTERHEAD AND MAIL FOR FREE LITERATURE!

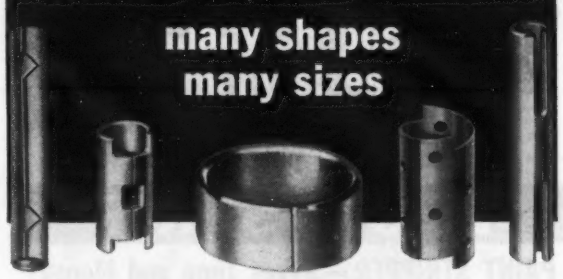
WILTON TOOL MANUFACTURING CO., INC. SCHILLER PARK, ILLINOIS

SOLD BY LEADING DISTRIBUTORS THE WORLD OVER NED-100

▲ For more details circle NED-425 K on enclosed inquiry slip ▲

FORMED SPACER TUBES...

many shapes many sizes



. . . at a saving over pipe and tubing!

Made from any formable metal—mild steel, copper, brass, bronze, aluminum, stainless steel.

Plating or finishing of any standard type—copper, zinc, nickel, cadmium, Parkerizing, Dulite.

Available in special shapes, tapers, seams, locks, and with ball indents for oil pockets . . . can be supplied copper-brazed to other components, and with copper-brazed seams. For free catalog, write to Federal-Mogul Division, 11079 Shoemaker, Detroit 13, Mich.

FEDERAL Mogul

FEDERAL-MOGUL sleeve bearings bushings spacers thrust washers DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

▲ For more details circle NED-426 K on enclosed inquiry slip ▲

QUANTITY QUALITY QUICK

. . . yours with SOCKET SCREW PRODUCTS by

B-RIGHT-ON®

To get exactly *what* you want, *when* you want it, specify B-RIGHT-ON! Immediate service from selected mill supply houses' stocks. Write for detailed design-dimensional brochure!

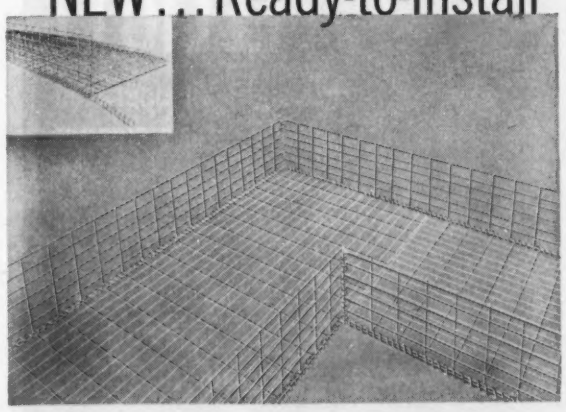
COMPLETE SOCKET SCREW LINE!

® You can do better with B-RIGHT-ON!

THE BRIGHTON SCREW & MFG. CO.
1957 Reading Road, Cincinnati 2, Ohio

▲ For more details circle NED-427 K on enclosed inquiry slip ▲

NEW . . . Ready-to-Install



WIRE-SHIELD Conveyor Guards

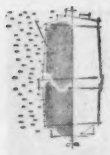
Save costs with these easily installed WIRE-SHIELD Conveyor Guards. Fabricated 2 x 4 welded steel mesh in standard 8 ft. lengths with a wide choice of widths and side heights. Finished in aluminum. Provides protection for all conveyors . . . straight, inclined and with 90° turns. Shipped ready-to-install.

WRITE FOR INFORMATION

SPRINGPORT Steel Products Co.
SPRINGPORT, MICHIGAN

02

▲ For more details circle NED-428 K on enclosed inquiry slip ▲



DOLLINGER DRY FILTER
Specialists for 39 years

LOW PRESSURE PIPE LINE FILTERS

DOLLINGER STAYNEW LOW PRESSURE FILTERS are specifically designed to protect the delicate orifices of precise air-operated instruments from clogging caused by dirt and oil. Features highly-efficient (5-6 microns) filtering . . . radial fin, single bolt construction . . . lightweight die cast aluminum housing. Several models available for up to 150 p.s.i. Consult your local Dollinger representative or write for Data Sheet CPHB-4D. Dollinger Corporation, 81 Centre Park, Rochester 3, New York.

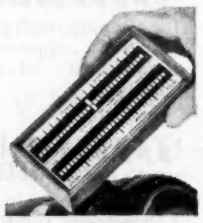
PROTECTOMOTOR STAYNEW FILTERS DOLLINGER

▲ For more details circle NED-429 K on enclosed inquiry slip ▲

MEASURE RPM

BY HAND
Centrifugal and Chronometric
HAND TACHOMETERS
All Ranges up to 100,000 RPM
Bulletin 1048

BY TOUCH
VIBRATING REED TACHOMETERS
Portable and Stationary Types
Bulletin 770



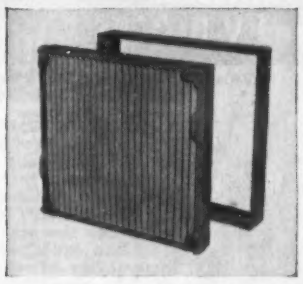
BY NEW HIGH INTENSITY STROBOSCOPE
"Industry's Seeing Eye"
Bulletin 780

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

▲ For more details circle NED-430 K on enclosed inquiry slip ▲

DOLLINGER DRY FILTER
Specialists for 39 years

DRY AND VISCOUS PANEL FILTERS



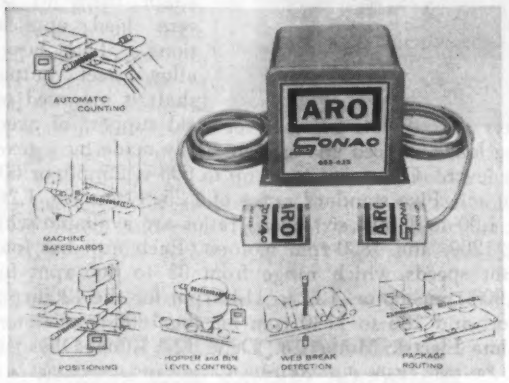
DOLLINGER STAYNEW DRY PANEL FILTERS offer efficient, heavy-duty air conditioning and ventilating for all industrial and commercial systems where viscous-type filters are indicated. Lightweight, strong, large dust-holding capacity . . . low restriction to air flow, easy to clean. Wide range of sizes, models, filter media. Consult your local Dollinger representative or write for Bulletin 700. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

PROTECTOMOTOR STAYNEW FILTERS DOLLINGER

▲ For more details circle NED-431 K on enclosed inquiry slip ▲

ULTRASONIC SENSOR & SWITCH
uses interrupted sound beam for counting, controlling, monitoring

Automatic counting, weighing, sizing, package routing, positioning, and various other production line operations can be controlled by the Sonac ultrasonic sensor

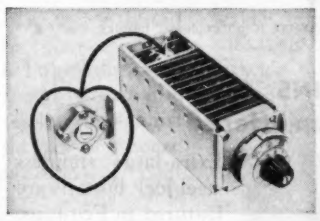


and switch (*NED June* '60). It is also used for automatic door and elevator control and for burglary protection. Device consists of two sensors and a control unit, and functions similar to a photoelectric device, except that it uses ultrasonic energy rather than light for its beam. When the sound beam is interrupted, the control functions.

Device is unaffected by such conditions as vibration, dust, smoke, or low or high light levels. The transistorized control unit or amplifier has no replaceable parts. Hermetically sealed sensors can be remotely located from the control unit. • **Aro Equipment Corp.**, Industrial Div., Erie Street, Bryan, Ohio.

▲ For more details circle NED-432 K on enclosed inquiry slip ▲

ROTARY SWITCHES
handle up to 400 positions



Maintenance of high reliability removable wafer rotary switches is minimized, as each wafer lifts out without any disassembly for rapid cleaning or easy replacement. Types RSG-40 and RSG-30 handle up to 400 positions single-pole with 20 wafers. They are also available with two poles and 200 positions. Type RSG-21 measures 2 x 2 x 6 in., and has up to 100 positions, with 10 standard wafers. Switching is transferred from one wafer to the next through a Geneva gear control and its associated control wafer. Any standard multiposition indicating dial can be furnished. Switches have positive indexing with manual, motor, or solenoid drive. Wafers are made of various materials, with several types of circuitry, and electronic components can be included if desired. • **Chicago Dynamic Industries, Inc.**, Precision Products Div., 1725 Diversey Blvd., Chicago 14, Ill.

▲ For more details circle NED-433 K on enclosed inquiry slip ▲

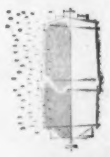
FLUID POWER NEWS — SIX ISSUES — Forty pages of factual, concise engineering reports handled in a logical, step-by-step basis . . . examples of Oilgear *Application-Engineering* at work in many industries. Initial requirements are outlined, followed by "how-it-works" solutions . . . with on-the-job photos and schematic diagrams.

These issues cover rotary and linear drive applications in paper, printing, marine, lumber, chemical, plastics, food industries, and U.S. Corps of Engineers.

REQUEST FLUID POWER NEWS FILE.

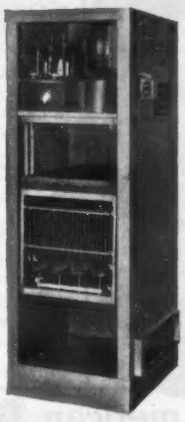
THE OILGEAR COMPANY
Application-Engineered Controlled Motion Systems
1582 WEST PIERCE STREET • MILWAUKEE 4, WISCONSIN

▲ For more details circle NED-434 K on enclosed inquiry slip ▲



DOLLINGER DRY FILTER
Specialists for 39 years

ELECTRONIC MIST COLLECTOR



DOLLINGER ELECTRO-STAYNEW MIST COLLECTORS are actually self-contained ventilating systems for individual machine tools. Remove oil, smoke, grit and chips from air . . . return clear air to shop. Saves you hundreds of dollars in building maintenance. Greatly reduces employee sickness. Available in 800, 1200, 1600 CFM. Consult your local Dollinger representative or write for Bulletin 420. Dollinger Corporation, 49 Centre Park, Rochester 3, N.Y.

PROTECTOMOTOR STAYNEW FILTERS DOLLINGER

▲ For more details circle NED-435 K on enclosed inquiry slip ▲

FINGERTIP CONTROL GIVES VARIABLE SPEED WITH ZERO-MAX

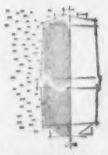
A finger's touch instantly and accurately sets the control lever of your ZERO-MAX stepless variable speed drive anywhere from zero to 1200 RPM. These compact, low cost drives produce from 3 to 450 in.-lbs. of torque with fractional horsepower 1800 RPM motors. They are available with or without reverse, gearhead, safety disconnect or motors. ZERO-MAX drives are priced from $45.00. Write for our free 16-page catalog or refer to Sweet's Product Design File.

Representatives in major cities

THE ZERO-MAX COMPANY

2855 Harriet Ave. So., Minneapolis 8, Minn.

▲ For more details circle NED-436 K on enclosed inquiry slip ▲



DOLLINGER DRY FILTER
Specialists for 39 years

HI-VELOCITY ELECTRONIC AIR CLEANER

DOLLINGER HI-VELOCITY ELECTRONIC AIR CLEANER is entirely new. Highly efficient, it removes 90% of all airborne dirt, including smoke, dust, pollen, oil mist. Simple one-unit design . . . fewer parts to assemble . . . lighter weight for easy installation . . . overhead mounting possible. Comes in single units of 1200 and 1800 CFM; any capacity in multiple units. Consult your local Dollinger representative or write for Bulletin 405. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

PROTECTOMOTOR STAYNEW FILTERS DOLLINGER

▲ For more details circle NED-437 K on enclosed inquiry slip ▲

New AO "DURA Safe"

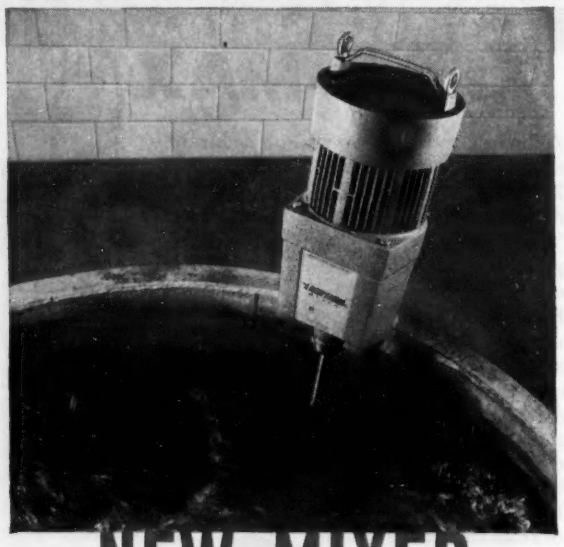
Eye Protection and Correction at their Finest

Newest in engineered safety glasses. Features include: 7 Barrel Hinge — 40% increase in strength at a temple's most vulnerable spot. Duragrip Screw Construction — keeps temples tight permanently, screws cannot fall out. "Lock-A-Lens", new safety ridge that locks lens in. "Breeze catcher" side shields available. Stronger, sturdier frame. Many other advances in a variety of excellently fitting models. Write for brochure S-1013.

American Optical COMPANY
SAFETY PRODUCTS DIVISION
SOUTHBRIDGE, MASSACHUSETTS
Safety Service Centers in Principal Cities

Your Surest Protection...AO SURE-GUARD Glasses

▲ For more details circle NED-438 K on enclosed inquiry slip ▲



NEW MIXER

Handles many jobs on less power

You won't have to lubricate it for five years.

You can't overload the gear drive.

It comes with a chemical plant motor as *standard,* at no extra cost.

You don't need three hands to remove the shaft.

And it mixes fluids like no portable mixer you've ever seen. Delivers up to 45% more fluid flow in gear-drive models. Higher impeller head in direct-drive models. Actually lets you handle many mixing jobs with a *smaller* mixer drawing *less power.*

This all-new LIGHTNIN Portable Mixer is ready for you now, in sizes from 1/8 to 3 hp. And the price is right. Your LIGHTNIN Mixer representative will gladly show it to you. You'll find his name in Thomas' Register. Or write us for descriptive Bulletin B-520.

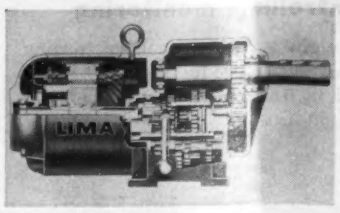
IN FIXED MOUNTINGS, TOO— Get the same all-new advantages in permanent-mounting LIGHTNIN Mixers for open and closed tanks. A complete line, sizes from 1/4 to 3 hp. For details on these, send for Bulletin B-521.

Lightnin® Mixers
MIXCO fluid mixing specialists

MIXING EQUIPMENT Co., Inc., 165-k Mt. Read Blvd., Rochester 3, N.Y.
In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.

▲ For more details circle NED-439 K on enclosed inquiry slip ▲

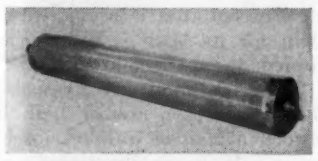
MOTORIZED GEARSHIFT DRIVE in redesigned 1 to 5-hp models



Lower output shaft speeds of redesigned 1 to 5-hp Type R3C gearshift drives adapt them to severe load applications. The heavy alloy steel output shaft is mounted on widely spaced ball bearings for rigid support of overhung loads. Speed changes are easily made by a gearshift lever. Operation is on up to 600-v, 25, 50, or 60-cycle ac. Five standard ratios of 2.25, 1.89, 1.60, 1.26, and 1.00 to 1 and six special ratios are available with 900, 1200, and 1800-rpm motors. Each unit has four output speeds which range from 93 to 865 rpm for the 900-rpm motor, 123 to 1140 rpm for the 1200-rpm motor, and 186 to 1730 rpm for the 1800-rpm motor. ● **Lima Electric Motor Co.,** Dept. 124, Lima, Ohio.

▲ For more details circle NED-440 K on enclosed inquiry slip ▲

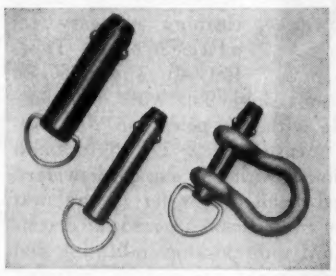
HYDRAULIC ACCUMULATORS in 10-cu in. to 23-gal range



Line of leakproof hydraulic piston accumulators for use in aircraft, automotive, automation, missile, marine, machinery, machine tool, hydraulic press, and processing and many other industries includes 10-cu in. to 23-gal capacities. Standard operating pressure is 3000 psi, with temperature range of −40 to 200° F. Free piston contains three O-rings, all of which are active in the system. Automatic check valve arrangement dispenses with pressure build-up between O-rings. ● **Hydrodyne Industries, Inc.,** 500 Shames Dr., Westbury, L. I., N. Y.

▲ For more details circle NED-441 K on enclosed inquiry slip ▲

QUICK-RELEASE PINS 1/4-in. size and up offered



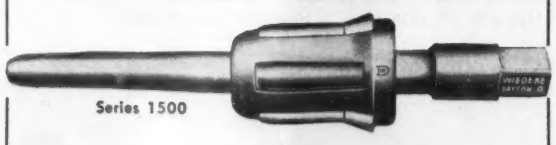
Extra-large stainless steel lock buttons are featured in Eco-Pins, quick - release pins for use in clevises, chain and anchor shackles, and as safety-lock or shear-load pins. Buttons are activated by siliconized rubber and will hold against vibration, even in oversized holes. Sizes from 1/4 in. up are offered in stainless steel, naval bronze, and plated steel. ● **Waldick Engineering Co.,** Box 398, Huntington Station, L. I., N. Y.

▲ For more details circle NED-442 K on enclosed inquiry slip ▲

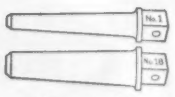
You'll Get More Efficiency with

IDEAL WIEDEKE DAYTON TUBE EXPANDERS

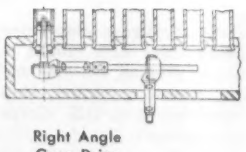
Series 1500
Tube Expanders



Series 1500



Short Mandrels



Right Angle Gear Drive

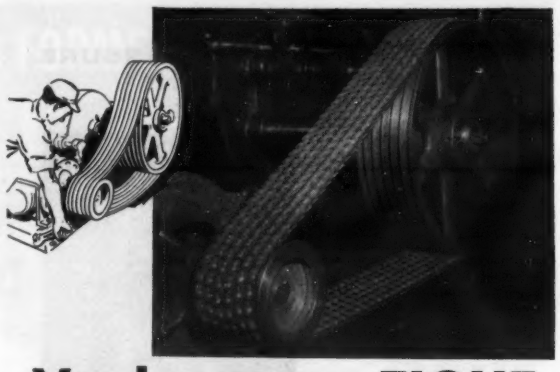
For installation and maintenance of tubes in drums, headers and similar water tube boilers.

A combination of short mandrels and right angle gear drive speeds up operation and assures efficiency with far less operator-fatigue. The new and smaller reinforced gear drive enters most hand-holes.

See Your Dealer or Write Us Today!

The Gustav WIEDEKE Company
DAYTON 5, OHIO

▲ For more details circle NED-443 K on enclosed inquiry slip ▲



Veelos stays TIGHT

You never have to tilt or reset a motor, or tear down outboard bearings to replace a set of v-belts, when Veelos is installed on a drive.

Veelos stays tight—maintains the right tension to operate your machines at top efficiency. And, if adjustment of an individual belt should become necessary, all you do is add or remove a link or two—a job that takes minutes instead of hours.

With unique Veelos link construction, you get uniform power transmission, no slippage, no wasted power, no uneven belt and sheave wear. Get the full story of how Veelos-equipped drives assure maximum machine operation—*send for a free Veelos Data Book.*

VEELOS THE BALANCED LINK V-BELT

MANHEIM
Manufacturing & Belting Company
Manheim 4, Penna.

There's no substitute for quality! Insist on *genuine* Veelos—made only by Manheim.

▲ For more details circle NED-444 K on enclosed inquiry slip ▲

NEW and NEEDED!

EAGLE SAFETY PLUNGER CANS

safe cleaning with flammable liquids . . . pressure forces measured fluid to dampen swab . . . FM approved . . . 1, 2 qt., 1 gal.

EAGLE SAFETY BENCH CANS

for cleaning small parts safely, quickly . . . approved by Factory Mutual . . . 1, 2 qt., 1 gal. capacities.

EAGLE Style I SAFETY CANS

approved by Underwriters Laboratories and FM . . . safe for handling all flammable liquids . . . 1, 2 qt., 1 gal. with trigger handle; 2½, 5 gal. with free-swing handle.

ORDER FROM YOUR SUPPLIER

See us in Chicago Jan. 23-26 at '61 Maintenance Show —EAGLE BOOTH #590

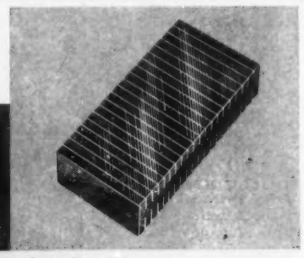
Write for free catalog showing Complete Eagle Line . . . Eagle products are also available in Canada

EAGLE MANUFACTURING CO., Wellsburg, W. Va.
Serving the Trade Since 1894

▲ For more details circle NED-445 K on enclosed inquiry slip ▲

Get precision that gives precision . . .

Magnetic PARALLELS and V-BLOCKS



PARALLELS . . . ground singly or in pairs

Number	Dimensions	Wt. Each	Price Each	Price Pair
M-1	¾ x 1½ x 3	1¼ lbs.	$11.00	520.00
M-2	¾ x 1½ x 6	2¼ lbs.	17.00	30.00
M-11	⅞ x 2 x 4	2½ lbs.	17.50	31.00
M-153	1 x 1½ x 3	1½ lbs.	13.00	23.00
M-22	1 x 2 x 2	1½ lbs.	12.00	21.00
M-23	1 x 2 x 3	2 lbs.	15.00	27.00
M-3	1 x 2 x 4	2¾ lbs.	18.00	32.00
M-4	1 x 2 x 6	4 lbs.	19.00	34.00
M-28	1 x 2 x 8	5¾ lbs.	22.00	39.00
M-255	1 x 2½ x 5	3½ lbs.	20.00	36.00
M-34	1 x 3 x 4	3¼ lbs.	20.00	36.00
M-5	1 x 3 x 6	6 lbs.	26.00	46.00
M-38	1 x 3 x 8	7½ lbs.	37.00	66.00
M-312	1 x 3 x 12	12 lbs.	52.00	93.00
M-356	1 x 3½ x 6	6¾ lbs.	32.00	57.00
M-6	1 x 4 x 4	5½ lbs.	22.00	39.00
M-46	1 x 4 x 6	8 lbs.	37.00	66.00
M-48	1 x 4 x 8	9¼ lbs.	45.00	81.00
M-412	1 x 4 x 12	16 lbs.	73.00	131.00
M-510	1 x 5 x 10	18 lbs.	77.00	138.00
M-610	1 x 6 x 10	20 lbs.	79.00	142.00
M-612	1 x 6 x 12	24 lbs.	100.00	180.00
M-7	1 x 8 x 8	22 lbs.	86.00	154.00
M-8	1⅛ x 1⅛ x 4½	3½ lbs.	19.00	34.00
M-9	1⅜ x 2 x 3	1½ lbs.	17.00	30.00
M-248	2 x 4 x 8	18 lbs.	86.00	154.00

V-BLOCKS . . . 90° V and 45° from centerline

Size No.	Height, Inches	Width, Inches	Length, Inches	Price Each	Price Pair
MV-1	1⅜	2½	2½	$38.00	568.00
MV-2	1⅜	2½	4	58.00	102.00
MV-3	2	4	6	96.00	172.80
MV-4	1¾	2½	8	72.00	129.00

Order now for prompt delivery!

Hanchett MAGNA-LOCK, CORP BIG RAPIDS, MICHIGAN

▲ For more details circle NED-446 K on enclosed inquiry slip ▲

THE "PERFECT" SLING IS BRAIDED!

MACWHYTE ATLAS SLINGS

Macwhyte Atlas Slings are braided to provide a perfectly balanced sling — extra flexible, lightweight, kink-resistant, load hugging, easily handled. Available in a wide variety of types, sizes, and fittings. Ask for Sling Bulletin 5308R. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin, U.S.A. 214

MACWHYTE Wire Rope COMPANY

For more details circle NED-447 K on enclosed inquiry slip

All About:

- An amazing concentration of heat in 1/5th the space of ordinary units.
- Tests that prove longer operating life at higher watts densities — 5 to 10 times the life of ordinary units.
- Methods for determining your operating needs (charts, etc.) . . . for all this, and more —

Write for your free copy now!

WATLOW ELECTRIC MANUFACTURING CO.
1374 Ferguson Avenue
Saint Louis 14, Missouri.

For more details circle NED-448 K on enclosed inquiry slip

MACWHYTE MONEL METAL WIRE ROPE RESISTS CORROSION

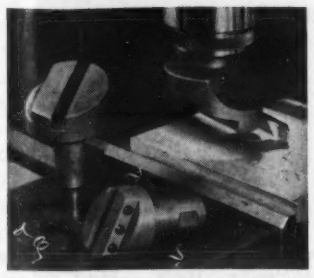
Macwhyte Monel Metal wire rope is a preformed wire rope of a high-nickel-content alloy steel. Monel Metal is more resistant to corrosive substances than any other commercial metal. Monel Metal wire rope will resist pickling solutions, salt water, fruit juices, food acids, soaps, and alkaline substances. It also resists such acids as sulfuric, hydrochloric, and hydrofluoric. It is ideal for use on hoists, conveyors, and controls exposed to highly corrosive conditions.

For more information, or specific recommendations for your application, write: Macwhyte Wire Rope Company, Kenosha, Wis., U. S. A. Ask for bulletin 49-30. 186

MACWHYTE Wire Rope COMPANY

For more details circle NED-449 K on enclosed inquiry slip

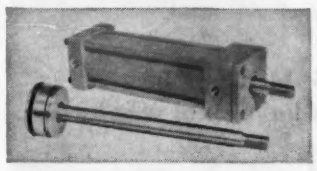
FLY TOOL CUTTER HOLDERS
improved counterbalanced type



Improved Fli-Kut fly tool cutter holders are now counterbalanced, allowing faster speeds and feeds and finer finishes. Using a 5/16-in. carbide or high-speed steel tool bit, units are capable of rapid stock removal and smooth finishes up to 6 in. wide in one cut instead of a series of cuts as with end mills. Three different sizes of holder have a 3/4 in. shank for adaptability to most vertical mills. Set of three holders is furnished in a plastic stand. • City Tool-Die & Mfg. Co., 132 Spencer Ave., San Jose 10, Calif.

For more details circle NED-450 K on enclosed inquiry slip

AIR & HYDRAULIC CYLINDERS
offered with various mountings



Cost Saver line of air and low pressure hydraulic cylinders is made with 1 1/8 to 3 1/2-in. bores. One-piece aluminum piston, hard chrome plated piston rod, aluminum end caps, seamless brass tube, block V-seals and wiper on rod and piston, and adjustable cushions on either end are design features. Flush, foot, front and rear flange, clevis, and pivot mountings are available. • Mo-Bar Hydraulics Co., Crystal Lake, Ill.

For more details circle NED-451 K on enclosed inquiry slip

DRAIN CAN
equipped with metal fire baffle

Flammable liquids can be safely drained from drums or other containers with this 3-gal drain can. It has a large funnel with a wide opening and a perforated metal fire baffle to guard against flame or spark ignition of contents. The top is easily removed for emptying or cleaning the can. Its seamless body is drawn from 24-gage terne coated steel. Designed for rough handling, it is Factory Mutual approved. • Eagle Mfg. Co., 1058 Charles St., Wellsburg, W. Va.

For more details circle NED-452 K on enclosed inquiry slip

STOP

PORTABLE! MIDWEIGHT! QUALITY ENGINEERED!
Exclusive 3-way, pivotal-rigid combination handle. Either-hand, momentary safety switch.
13" KL-13 $169.50 for areas up to 5,000 sq. ft.

Generals ARE FEATURE-FILLED

GO

MAIL COUPON FOR COMPLETE DETAILS

PUT $100 BACK IN YOUR POCKET!
WHY SPEND $300 FOR A LARGE FLOOR MACHINE? THE NEW

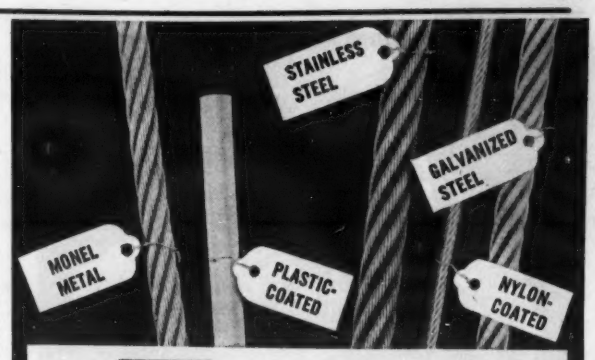
General

15" KL-15 at $199.50 DOES THE WORK PERFECTLY for areas up to 7,500 sq. ft.

General FLOORCRAFT, INC.
3630 Rombouts Ave., Bronx 66, N. Y. Est.1930
• All Sizes For All Types of Floors — Made By Floor Specialists
• World's Most Complete Line of Floor Maintenance Machines & Vacuums

NE-10
☐ Have Distributor call on us.
☐ Send complete information, literature and prices.
☐ Floor Machine ☐ Vacuum
Company ____
Street ____
City ____ State ____
My Name ____ Title ____

For more details circle NED-453 K on enclosed inquiry slip



5 Here are Corrosion-Resisting Wire Ropes

These wire ropes are available to you in a variety of sizes to meet your many needs. Hundreds of industries — aircraft, chemicals, food processing, petroleum refining, rubber, yachting—rely on the ability of these wire ropes to give more economical service under various corrosive conditions.

Describe your needs and we'll gladly make wire rope recommendations. Macwhyte Wire Rope Company, Kenosha, Wisconsin, U. S. A. 217

MACWHYTE Wire Rope COMPANY

For more details circle NED-454 K on enclosed inquiry slip

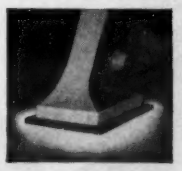
If you can use shears you can

CUT VIBRATION & NOISE

with low-cost MB ISOMODE® PADS!

A pair of shears and a standard package of Isomode Pads...that's all you need to isolate troublesome shock and vibration on as much as 80 tons of machinery.

Made of durable, resilient DuPont neoprene, these ribbed pads support up to 50 lbs. per sq. in.—do an effective job of muffling plant noise and reducing maintenance costs on machines and buildings.



Installation is utter simplicity —simply cut to fit machine feet and install. No waste, no fuss, minimum down time. Write for prices and Application Bulletin No. 415.

MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 State Street, New Haven 11, Conn.

For more details circle NED-455 K on enclosed inquiry slip

Economical... attractive... uniform

MACWHYTE CABLE ASSEMBLIES

"Safe-Lock" wire rope assemblies are made in a wide range of sizes and types for machine parts, controls, and operating devices. They are fabricated to the exact size and length you need, with fittings on one or both ends — ready to use for safe, easy, quick, low-cost installation. Ask for catalog 5601. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin, U.S.A. 215

MACWHYTE Wire Rope COMPANY

For more details circle NED-456 K on enclosed inquiry slip

Binks Wren Air-Brush & Pak

does 1,001 spray jobs anywhere in your plant

This is a precision miniature spray painting outfit . . . complete with air. Ideal for on-the-spot touch-up, stenciling, finishing small parts, coding and countless other jobs. Applies paints, lacquers and coatings. Adjustable from a fine line to a wide, coarse stipple. Wren Air Pak provides air for up to 30 minutes of intermittent spraying.

Binks EVERYTHING FOR SPRAY PAINTING

Complete details available in Bulletin A59-1R1. Ask your Binks distributor for a copy or write direct.

Binks Manufacturing Company
3122-34 West Carroll Avenue
Chicago 12, Illinois

0802

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES · SEE YOUR CLASSIFIED DIRECTORY

▲ For more details circle NED-457 K on enclosed inquiry slip ▲

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This office machine does more jobs than any other!

We'll prove it in your office: The versatility of "Thermo-Fax" Brand Copying Machines can't be matched. You'll see copies of business papers made in 4 seconds. *Statements* turned out at the rate of 250 an hour. *Gummed labels* addressed instantly. *Correspondence* answered in seconds. *Laminating* done quickly and economically. Many additional jobs impossible with other machines. You'll agree, it's wise to have these versatile machines working wherever paperwork should be speeded. Call your local dealer, or mail the coupon now.

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COPYING MACHINES

Thermo-Fax COPYING PRODUCTS 3M

THE TERM "THERMO-FAX" IS A REGISTERED TRADEMARK OF 3M COMPANY

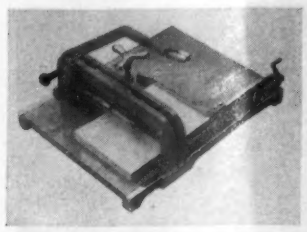
MINNESOTA MINING AND MANUFACTURING COMPANY
. . . WHERE RESEARCH IS THE KEY TO TOMORROW

Minnesota Mining and Manufacturing Company,
Dept. DBQ-100, St. Paul 6, Minn.
At no obligation, I'm interested in seeing a "Thermo-Fax" Copying Machine simplify the jobs mentioned above.

Name
Firm
Address
City Zone State
☐ Check here if you now own a "Thermo-Fax" Copying Machine

▲ For more details circle NED-458 K on enclosed inquiry slip ▲

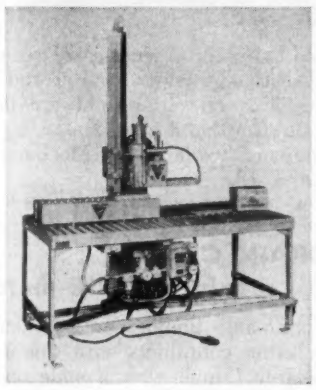
PAPER CUTTER
cuts 300 sheets up to 14½ in. wide



Usable on bench or table, two Table-Top paper cutters are suited for wide range of office, drafting room, reproduction, and other applications. Cutting length is quickly selected with the Micro-move back guide adjustment and a ¼-in. graduated side guide. Back guide is removable for handling long sheets. Safe, easy operation is assured. Stick-saver adjustment controls action of hardened steel cutter blade, conserving cutting sticks and assuring cut through last sheet of paper. Rubber pads on feet prevent marring of table surfaces. Drilled holes in feet permit optional permanent mounting. Model 15 with a cutting width of 14½ in. and 300 sheets of paper is priced at $149.50. Model 11, also capable of cutting 300 sheets, but having a cutting width of 11½ in., costs $119.50. • **Douglas Homs Co.**, 1314 Rollins Rd., Burlingame, Calif.

▲ For more details circle NED-459 K on enclosed inquiry slip ▲

CARTON CLOSING MACHINES
automatic units have dual staplers



Top and bottom of corrugated cartons are closed simultaneously by Space-Saver automatic stapling machines. They utilize semiflat stapling clips and forming dies in dual stapling heads, driving and clinching 5000 staples from each head without reloading. Up to 500 cartons can be closed per hour. Machines are adaptable to a wide range of carton sizes and shapes with a minimum of manual adjustment. Automated models feed cartons from an accumulator, close the top flaps, drive and clinch the proper number of staples, and move the cartons on to a discharge conveyor—all automatically. • **International Staple & Machine Co.**, Box 270, Herrin, Ill.

▲ For more details circle NED-460 K on enclosed inquiry slip ▲

Tubing for Aircraft & Missiles

Superior Tube Co.—Tubing for fluid-handling lines, jet and rocket engines, heat exchangers, aircraft instruments, pitot and venturi uses, thermocouples, fire fighting systems, as well as for ducting and pneumatic systems is covered as to characteristics, uses, and analyses in 12-page Bulletin 372.

▲ For more details circle NED-461 K on enclosed inquiry slip ▲

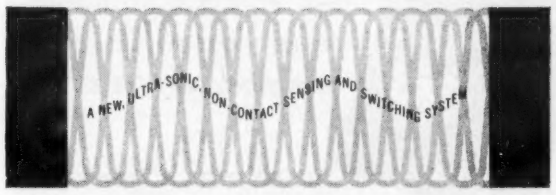
SELF-ADHERING COVERINGS

Like putting mittens on kittens, you can protect polished finishes on aluminum, stainless steel, plastics, glass . . . metals and materials of all kinds . . . This self-stik "skin" applies quickly from the roll—provides a tough, scratch-proof covering during all processing, fabricating, handling, shipping, storage. Write today for information and samples.

MYSTIK SELF-STIK

Mystik Adhesive Products, Inc.
4234 West Drummond Place, Chicago 39, Illinois

▲ For more details circle NED-463 K on enclosed inquiry slip ▲



SONAC* Here truly is a new dimension in automated controls! Delavan's new SONAC uses ultra-sonic energy for its "beam". This new concept offers many advantages over available sensing devices. SONAC has no lamps to burn out . . . nothing to replace . . . eliminates down time. SONAC is unaffected by vibration, dust, industrial contamination or ambient light. SONAC will sense ferrous and non ferrous metals, liquids or solids, transparent or opaque materials yet requires less power than an ordinary flashlight. These are just a few of SONAC's advantages.

*Sonac is a trade mark of the Delavan Manufacturing Co.

PATENTS PENDING

Send for a complete descriptive booklet. There's no cost or obligation.

DELAVAN Manufacturing Company
WEST DES MOINES, IOWA

▲ For more details circle NED-464 K on enclosed inquiry slip ▲

NEW MODÈLE #407 REACHES NOUVEAU HIGH IN PERFORMANCE

14,000 amps • high pressure • welds from lightest gauge up to 2 x ⅛" • fully automatic single and repeat action • air operated • water cooled • ski-lift type gyroscopic suspension • 10" throat. Extension arms up to 30" available.

Complete with Timer
$1720
F.O.B.—L.I.C.
Subject to change without notice.

A wide Variety of Models Available for Every Job.
Illustrated Literature on Request.
Dealer Inquiries Invited.

ARO

ARO SPOT WELDER DIVISION Guthery Machine Tool Corporation
38-31 CRESCENT STREET, LONG ISLAND CITY 1, NEW YORK

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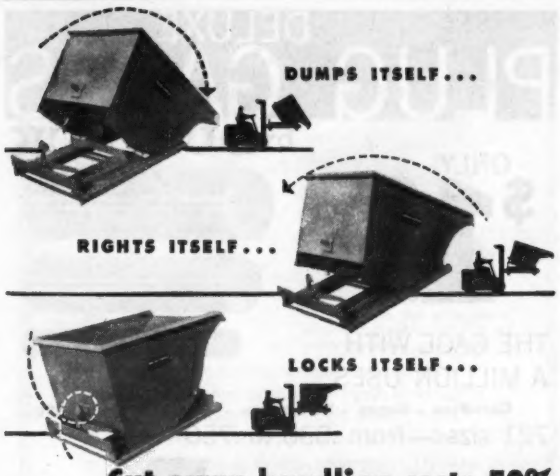


Cut scrap handling costs 50%

Hundreds of industries are now using Roura Hoppers to collect scrap metal. They're placed alongside machines or in strategic locations. When full, lift truck operator picks up loaded hopper . . . transports it to scrap bin or freight car . . . flips the latch . . . and the hopper automatically dumps its load, rights itself, locks itself. Roura Hoppers are made in eight sizes, ½ to 4 yard capacities. Built of 3/16" steel plate with continuous arc-welded seams. Heavier plate if desired. Also available in stainless steel or galvanized. Mounted on live skids or a choice of wheels. Standard models available for immediate shipment. Write today for more information. ROURA IRON WORKS, INC. 1415 Woodland Avenue, Detroit 11, Michigan.

ROURA *Self-Dumping* **HOPPER**

▲ For more details circle NED-465 K on enclosed inquiry slip ▲

▲ For more details circle NED-466 K on enclosed inquiry slip ▲

NEW BOOK *helps you select belt idlers and pulleys*

This new 76-page bulletin was designed to simplify your belt conveyor idler and pulley selection problems.

Idlers are "rated" for job requirements. You select from simple tables with the assurance that you are making the best possible selection for your service. No cumbersome, complicated engineering charts...no confusion... just a few simple steps.

Pulleys are listed by service classifications... each class "rated" for individual service conditions. Complete specifications and dimensions for the broad line of welded steel pulleys simplify your selection.

For your copy, write CHAIN Belt Company, 4686 W. Greenfield Ave., Milwaukee 1, Wis. In Canada, write CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto.

REX® CHAIN BELT COMPANY

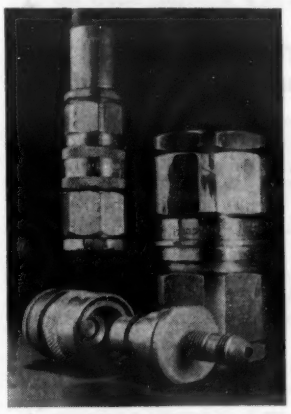
▲ For more details circle NED-467 K on enclosed inquiry slip ▲

SAFETY GLASSES two sizes fit all workmen

Attractive executive-style safety glasses have Easy-Fit bridge and are available in smoke gray or two-tone black grain and crystal, with or without side shields. Two eye sizes fit all workers. Standard interchangeable S-7 shape safety lenses of safety glass or plastic are available in clear or medium, dark, or extra-dark green shades. • **Pulmosan Safety Equipment Corp.**, 644 Pacific St., Brooklyn 17, N. Y.

▲ For more details circle NED-468 K on enclosed inquiry slip ▲

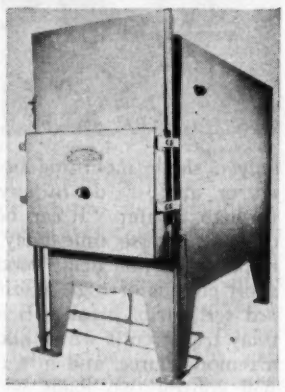
QUICK-DISCONNECT COUPLINGS nickel plated to resist corrosion



Electroless nickel plating on this line of Snap-Tite quick-disconnect couplings is completely free of voids, giving them the same protection against corrosion as stainless steel, but at a lower cost. Porosity is virtually zero, and there is no observable void between the coating and the base material. Under normal conditions abrasion resistance is good. These plated couplings are available in several types and a range of standard sizes. • **Snap-Tite, Inc.**, 201 Titusville Rd., Union City, Pa.

▲ For more details circle NED-469 K on enclosed inquiry slip ▲

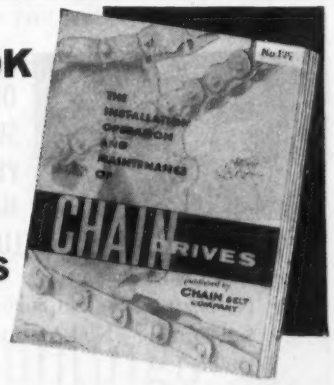
RECIRCULATING FURNACE operating range is 300 to 1400° F



Annealing, tempering, and stress relieving of both ferrous and nonferrous alloys can be performed in this box recirculating furnace, available in seven standard sizes for gas or electric heating. Both large and small parts may be heated together under accurate temperature control in a 300 to 1400° F range. A positive pressure, high volume fan assures uniform heating of work. Work areas range from 24 x 15 x 12 in. to 48 x 30 x 30 in. • **Sunbeam Equipment Corp.**, 180 Mercer St., Meadville, Pa.

▲ For more details circle NED-470 K on enclosed inquiry slip ▲

FREE BOOK tells you how to make your drive chains last longer



Thousands of chain drive dollars have been saved—countless down-time hours have been eliminated—by following the suggestions given in the new booklet, "Care and Maintenance of Chain Drives." Send for your free copy today.

CHAIN BELT

CHAIN Belt Company
4686 W. Greenfield Ave., Milwaukee 1, Wis.
(In Canada: CHAIN Belt (Canada) Ltd.
1181 Sheppard Ave. East, Toronto)
☐ Please send new booklet, "Care and Maintenance of Chain Drives."
☐ Have a Rex Man call.
Name.....
Company.....
Address.....
City.....*Zone*.....*State*.....

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IF YOU'RE **Handling Coil**

CHECK THESE C-F LIFTER ADVANTAGES

- 1 Lifter handles wide range of coil sizes
- Requires minimum of only 10" to 12" between piles — saves storage room
- 1 man operation — eliminates hookers
- Positive grip on coil — no damage to material

• C-F Coil Lifters are saving time and labor in many plants and warehouses because they can pick up, carry and set down a coil of steel faster and safer than any other method. Infinite jaw openings permit handling a very wide range of coil widths . . . carrying legs open fast, stay open until operator closes them on coil. Narrow legs require minimum space between piles—a space saving advantage. Made in motorized models for crane cab or pendant operation as well as manual types with chain wheel, in capacities from 3 tons up. Powered Rotating Heads available. Opening ranges to suit your requirements.

Write for Illustrated Bulletin

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

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Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

MARKEM

EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

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SHAFER-REX lifesaving seals for every service

SHAFER-REX Self-Aligning Roller Bearing

With Shafer-Rex Self-Aligning Roller Bearings, you get the right seal for your specific application needs. Whatever your sealing problem—grit or dust, liquids, high speeds, severe vibration—you can select a seal to seal it out—and seal in maximum bearing life.

For most conditions: Shafer "Z" Seal, the industry's only all-metal, fully self-aligning seal.

To keep out liquids: Shafer "M" Seal, a contact lip-type seal of synthetic rubber.

For high speeds, severe vibration: Shafer "K" Seal, a contact seal of neoprene/felt-neoprene, enclosed in a metal casing.

For complete information, write CHAIN Belt Company, 4686 W. Greenfield Ave., Milwaukee 1, Wis. In Canada: CHAIN Belt (Canada) Ltd., 1181 Sheppard Ave. East, Toronto.

SHAFER® REX® SELF-ALIGNING ROLLER BEARINGS

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The answer to your need for LOW-COST CONTINUOUS SEPARATION of TRAMP IRON from fast-moving, deep burdens

DINGS

NEW CERAMIC TYPE PERMANENT MAGNETIC PULLEY

CERAMOX V! That's Dings' new, powerful ceramic magnet material which protects machinery and product purity against tramp iron damage. Dings' new ceramic radial-pole Perma Pulleys provide high magnetic strength across entire belt width and greatest removal efficiency at high operating speeds. Other money-saving features . . .

- No operating cost. No wiring or power required
- No maintenance. Unit is automatic
- Quickly and easily installed
- High resistance to demagnetization
- High and prolonged surface strength
- Stainless steel surface for all-weather service

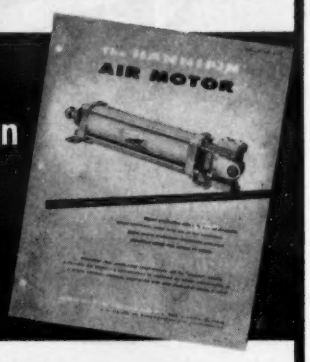
It will pay you to get complete details. Write for information today.

Dings

DINGS MAGNETIC SEPARATOR COMPANY
4758 W. Electric Ave., Milwaukee 46, Wis.

▲ For more details circle NED-475 K on enclosed inquiry slip ▲

NEW BULLETIN ON HANNIFIN AIR MOTORS



New rugged design ...with long-life features!

New cylinder design with hardened *and* chrome plated piston rod, one-piece non-score piston construction, and simplified transfer tube.

New valve design with stainless steel reciprocating disc, guarantees against solenoid coil burn-out. Also features built-in speed controls with self-locking adjusting screws.

This compact power-package can cut your production costs. Write for your copy of the bulletin today.

HANNIFIN COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-476 K on enclosed inquiry slip ▲

REMOVE COILS FROM PALLETS QUICKLY & EASILY

- Safe
- Labor-Saving
- Efficient
- Won't Damage Material!
- Self-Contained
- Automatic
- Portable

Sizes to handle loads from 3,000 to 40,000 pounds. Prices start at $2000.

Fork truck sets palletized coils on bed of cradle.

Cradle tips backward as base rotates.

Cradle nears end of 90° backward tip as it is finishing its 180° rotation.

Coils, now off pallet, face truck and are ready to fork.

turnover cradle
A Product of LA DEAU MANUFACTURING COMPANY
2702 San Fernando Road, Los Angeles 65, California
Telephone CApitol 2-8108

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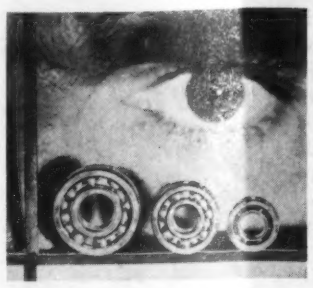
INSTRUMENT BALL BEARINGS for use in servos and small motors



Lightweight, stainless steel, ball-riding retainer minimizes internal friction in Series R ball bearings for servos, generators, small motors, synchros, and gyros. Because the two sections of the retainer can move slightly relative to each other, starting torque is reduced. Made to ABEC Class 7 tolerances in R2, R3, and R4 sizes, bearings are available with flanged outer rings for easy mounting, with single or double shields, and as either duplexed or preloaded pairs. Sizes range from 0.375 to 0.625 in. OD with bores from 0.125 to 0.250 in. • **Miniature Precision Bearings, Inc.**, Precision Park, Keene, N. H.

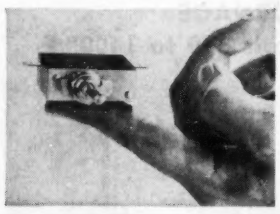
▲ For more details circle NED-478 K on enclosed inquiry slip ▲

NAIL PULLER has both claw and straight blades

A 90-degree cat's paw type nail claw at one end and a straight nail and spike-pulling blade at the other end lends dual purpose utility to the Targethead nail puller. With claw end user can dig out nails and spikes and get under hard-driven heads. Blade end affords enough leverage for full extraction of nails. The No. 132 bar is 12 in. long and retails for $1.98. • **Damascus Steel Products Corp.**, 2215 Kishwaukee St., Rockford, Ill.

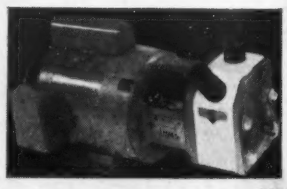
▲ For more details circle NED-479 K on enclosed inquiry slip ▲

CIRCUIT BREAKER subminiature unit withstands shock



Shock and vibration resistance of Series VP 1½-oz, matchbox-size hydraulic-magnetic circuit breaker makes it suitable for use in airborne, portable, and mobile equipment. It will double as an on-off power switch and requires only a single mounting hole. Unit operates at 110-v ac, or at 50 v dc in any current rating from 0.05 through 15 amp. It can be supplied with either a fast or slow inverse time-delay, or with an instantaneous response. Time delay models trip instantaneously on short circuits or high overloads. In addition to standard series-trip, breaker is also available in shunt and relay trip circuits which allow tripping electrically from a remote source, and in a calibrating-tap circuit which will control two loads with one single-pole breaker. • **Heinemann Electric Co.**, 356 Magnetic Dr., Trenton 2, N. J.

▲ For more details circle NED-480 K on enclosed inquiry slip ▲



ONLY VANTON SEALLESS PLASTIC PUMPS HAVE ALL THESE EXCLUSIVE FEATURES

- Non-Contaminating
- No Shaft Seals—No Stuffing Boxes
- Self-Priming—Non-Agitating
- Do not leak
- Operate dry or wet
- Handle corrosive chemicals, gases and slurries with equal ease
- Capacity range to 40 GPM
- Temperature range from —60°F. to +350°F.
- 54 combinations of materials such as Teflon, PVC, Kel F, Hypalon and Neoprene

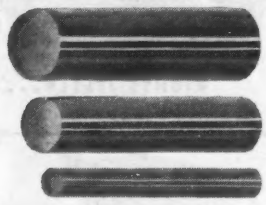
Write for Catalog #10A

Vanton PUMP & EQUIPMENT CORP.
DIVISION OF COOPER ALLOY CORP., HILLSIDE, N. J.

▲ For more details circle NED-481 K on enclosed inquiry slip ▲

DELUXE PLUG GAGES by DUNDICK

ONLY $1.25 per gage in lots of 10 or more in your choice of sizes



THE GAGE WITH A MILLION USES

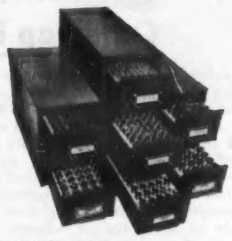
Core Pins • Gages • Perforators • Set-up Pins • 2" Long

721 sizes—from .030 to .750

FREE CABINETS

Free cabinets included at no extra cost with each complete or sectional order of the new Dundick DeLuxe Gages.

- Each cabinet complete with lacquered hardwood block. Contains properly identified and sized holes to hold pins.



GUARANTEED ACCURACY within a tolerance of plus or minus fifty millionths.

DUNDICK TOOL WORKS, INC. 3410 West 31st St. Chicago 23, Illinois

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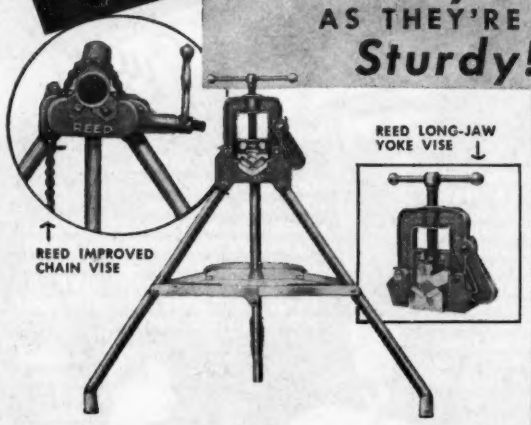
REED

Steady— AS THEY'RE Sturdy!



The Reed Tripod has a patented folding tray which locks legs rock-bottom solid to prevent spring and recoil. Tripod, with quick 'n-easy set-up and take-down, folds compactly for light, one-hand carrying.

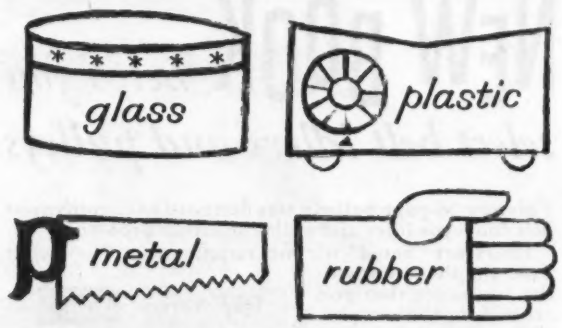
○ Convenient fumble-proof side handle on improved Chain Vise avoids bruised knuckles. The ¼" to 4" capacity makes it exactly right for jobs in maintenance and construction.

□ Patented Reed long-bearing alloy steel jaws enable Yoke Vise Model with slight handle pressure, to hold any pipe from ⅛" up to 2½". Lost motion eliminated by Reed special features.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA, U. S. A.

▲ For more details circle NED-483 K on enclosed inquiry slip ▲



FLO-MASTER FELT TIP PENS AND FLO-MASTER INKS MARK ON EVERYTHING

Flo-master felt tip pens with interchangeable felt tips are widely used in industry; durable and long lasting, they prove to be the economical buy—only $3. Flo-master oil-based inks make it easy to put a permanent mark on any surface; colors, too—black, green, blue, red, yellow, brown, purple, orange.

Economical marking in many colors. Use Cado-markers for economical marking in many colors. The Cado-marker has a fixed felt tip and a built-in Flo-master ink supply. Available in 49¢ Regular Size and 89¢ refillable Size. Ideal for distribution to personnel in eight-color sets—economical, too!

CUSHMAN & DENISON
Camden, New Jersey
A SUBSIDIARY OF THE ESTERBROOK PEN COMPANY

▲ For more details circle NED-484 K on enclosed inquiry slip ▲

Look to LINK-LOCK* for pressure-tight sealing

*Now Available with Spring Action for greater mounting flexibility and automatic take-up... where desired.

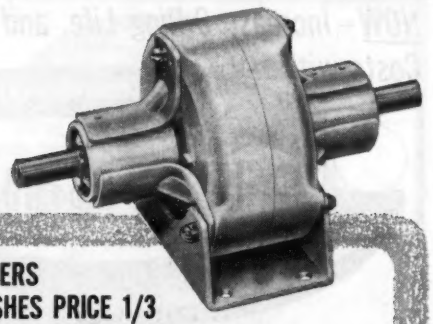
Here's a positive-locking fastener you can use wherever preloaded closure is desired. Heavy pull-down pressure insures water-tight sealing when gaskets are used. Offered in three sizes, LINK-LOCK is compact, simple in design, economical. Open or closed, it always lies flat. Provides excellent impact and drop-test resistance, is trouble-free even at −70° F. A natural for instrument cases, storage boxes, etc. Write for samples and 40-page catalog.

SIMMONS FASTENERS

Quick-Lock · Spring-Lock · Rote-Lock · Link-Lock · Dual-Lock · Hinge-Lock

SIMMONS FASTENER CORPORATION
1793 NORTH BROADWAY, ALBANY 1, N. Y.

▲ For more details circle NED-485 K on enclosed inquiry slip ▲



VICKERS SLASHES PRICE 1/3 on the New 10 Lb.-Ft.

MAGNECLUTCH®
DRY MAGNETIC PARTICLE CLUTCH

Substantial Improvement in Reliability, Service Life

This new low-cost, lightweight Magneclutch retains and improves all the outstanding characteristics of the older model: no wear on torque transmitting surfaces, smooth operation, torque at zero slip, etc. Larger size Magneclutches axailable to 200 lb.-ft., water or air cooled.

Watch for Announcement of New 5 lb.-ft. Magneclutch | Write for New Bulletin 6106-5 on Vickers 10 lb.-ft. Magneclutch

VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
ELECTRIC PRODUCTS DIVISION
1813 LOCUST STREET / SAINT LOUIS 3, MISSOURI EPA 6100-6

▲ For more details circle NED-486 K on enclosed inquiry slip ▲

isolate heavy machinery vibrations!

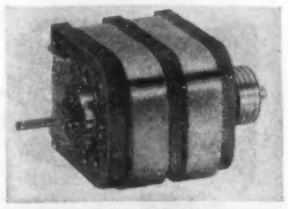
Low-frequency, high-amplitude vibration from machinery can be effectively controlled with Lord Lattice Mountings. Rugged one-piece bonded rubber design is highly flexible, yet horizontally stable. Easy installation. No maintenance. Load ratings from 250 to 3000 lbs. Recommended for vibratory screens, conveyors, shakeouts; low-speed pumps, blowers, compressors; and other heavy-duty equipment. Write for Bulletin 701.

Vibration/shock/noise CONTROL — LORD BONDED RUBBER

LORD MANUFACTURING CO., ERIE, PENNSYLVANIA

▲ For more details circle NED-487 K on enclosed inquiry slip ▲

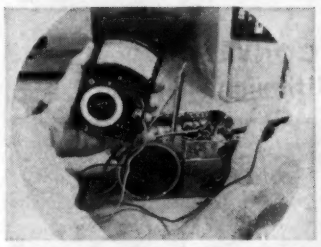
REVERSIBLE STEPPING MOTOR capable of 400 steps per second



Magnetic operation of the Cyclonome bidirectional stepping or positioning servomotor enables unit to operate at speeds up to 400 steps per second. Each input pulse or current reversal causes 18 degrees of shaft rotation within ±1/4-degree accuracy. Motor finds typical application as a positioning servomotor (digital positioner), digital-to-analog converter, or high torque, instant-start synchronous motor. It will drive high speed add-subtract counters and tape and film positioners. Unit has driving power of 1/3 to 40 w, depending on speed and load, and life of 50 million revolutions. Maximum torque is 80 gram-cm; inertia, 1.2 gram-cm². Over-all size, including shafts, is 2 5/32 x 1 27/32 x 2 19/32. ● **Sigma Instruments, Inc.**, 195 Pearl St., South Braintree 85, Mass.

▲ For more details circle NED-488 K on enclosed inquiry slip ▲

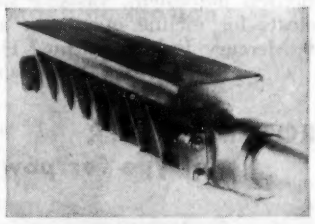
ELECTRIC TEST METER pocket size unit has many uses



The 6 x 4-in. Pocket Meter serves as a direct current voltmeter, alternating current rms voltmeter, ohmmeter, decibel meter, and direct current micromilliammeter. It also reads inductance, capacitance, and relative signal output. Meter is furnished with a pair of test prods and instructions. Price is $24.95. ● **Audiotex Mfg. Co.**, 400 S. Wyman St., Rockford, Ill.

▲ For more details circle NED-489 K on enclosed inquiry slip ▲

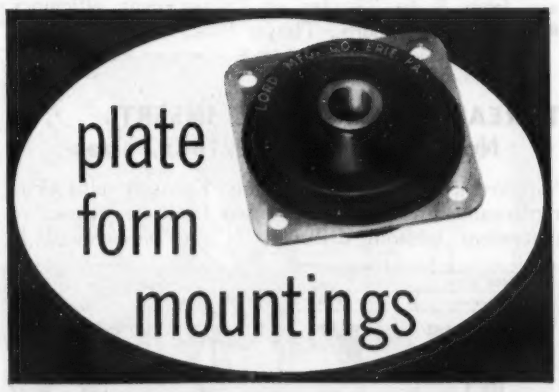
INFRARED BURNER gas-fired unit for processing uses



Face temperature of the 4 x 18-in. burner screen of this gas-fired infrared burner is 1200 to 1800° F, and nominal heat output is 30,000 Btu per hour. Unit is designed for low temperature industrial processing applications, concentrating its radiant heat emission in the 2 to 4-micron wavelength. A built-in flame adjustment permits profiling or contouring the heat pattern. Applications include curing shell molds and foundry cores, drying porcelain frit on metals, drying moist fabrics, and baking paint and enamel. Burner incorporates crackproof Inconel radiant screens, cast iron manifolds, and a single pilot for full-length lighting. ● **Bryant Industrial Products Corp.**, 17700 Miles Ave., Cleveland 28, Ohio.

▲ For more details circle NED-490 K on enclosed inquiry slip ▲

plan ahead—for vibration control

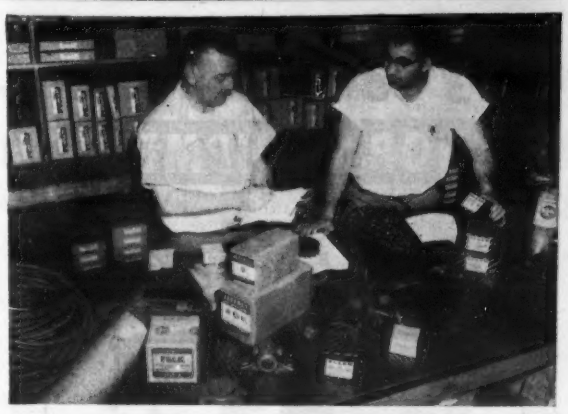


Design this versatile Lord mounting into your product and you design vibration out. Use it wherever excellent control of continuous vibration and occasional shock is needed. Elastomeric construction is low-cost, compact, one-piece, easy to install. Load ratings from ½ to 310 lbs. This is **the basic** isolator in the complete Lord product line. Original equipment manufacturers are invited to write for Bulletin 702.

Vibration/shock/noise CONTROL — LORD BONDED RUBBER

LORD MANUFACTURING CO., ERIE, PENNSYLVANIA

▲ For more details circle NED-491 K on enclosed inquiry slip ▲



Your Jeffrey distributor stocks and services your power transmission needs

Call him for Jeffrey chains, belt idlers, sprockets, conveyor pulleys, elevator buckets, conveyor parts or components, pillow blocks, spiral conveyors and accessories. He carries substantial stocks and can get fast delivery on these and other Jeffrey items.

Your Jeffrey distributor can be an invaluable member of your supply team. We suggest you get acquainted with the services and products he offers; he can save you time and money. The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

JEFFREY

CONVEYING • PROCESSING • MINING EQUIPMENT...TRANSMISSION MACHINERY...CONTRACT MANUFACTURING

▲ For more details circle NED-492 K on enclosed inquiry slip ▲

RADICALLY NEW!
SUTORBILT SERIES 88 BLOWERS
LIGHTER...SMALLER...QUIETER

- 6 new models produce 200 to 2200 cfm up to 12 psi continuously, 15 psi intermittently.
- Standard or gear head ratios up to 3 to 1.
- Direct or V-belt drive.
- Mount vertically or horizontally—on trucks, tractors and trailers or in plant.
- Self-contained lubrication system.
- Special Sutorbilt timing hub.
- Write for free bulletin, Department F.

2117 S 28

Representatives located in principal cities. Consult your classified telephone directory.

SUTORBILT IS WELL BUILT — CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF. SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.

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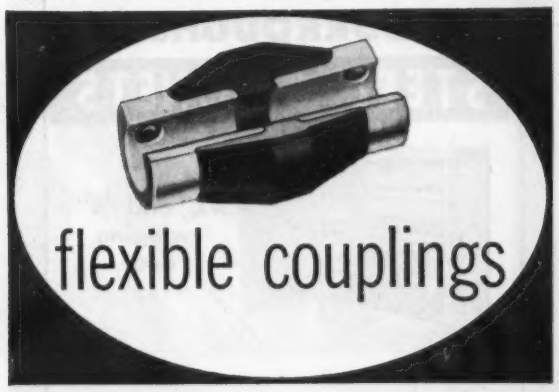
assure smooth, quiet power transmission



Specify Lord Flexible Couplings—get these performance benefits. Efficient isolation of torsional vibration and shock. Accommodation of all misalignment—angular, parallel, axial. Permanently quiet operation. Constant speed transmission—no backlash. No lubrication. Long life under tough operating conditions. Standard bonded rubber couplings from 1/50 to 100 hp. Special designs with torque capacities from inch-ounces to foot-tons. Original equipment manufacturers are invited to write for Bulletin 205.

Vibration/shock/noise CONTROL — LORD BONDED RUBBER

LORD MANUFACTURING CO., ERIE, PENNSYLVANIA

▲ For more details circle NED-494 K on enclosed inquiry slip ▲

it's BORROUGHS for
SHOP EQUIPMENT

Here you see 2 of the many units in Borroughs' nationally popular line of Shop Equipment which also includes a wide range of accessories. Every item is quality throughout, in material, design and construction—scientifically engineered to do its job well. Get full details . . . **send for catalog.**

BORROUGHS MANUFACTURING COMPANY
OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-495 K on enclosed inquiry slip

NEW PINES
HIGH PRODUCTION
END FINISHER

New Model 660 Speeds Chamfering • Deburring • Facing • Drilling • Reaming • Tube-End Forming

- Rugged new design for high production, easy operation, faster feeds on simultaneous inside-outside deburring, chamfering, facing.
- New rigid, unitized spindle frame and heavier base retains close concentricity between the tool holder and chuck jaws.
- Simplified setup, operation, maintenance . . . one-minute speed changes with new hinged safety guard and pivoted motor mount.
- Production to 800 ends an hour . . . capacity to 2" O.D. . . . air operation, larger units or special machines are also available.

Write for catalog giving cost cutting features, production data, complete specifications.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
641 WALNUT • AURORA, ILLINOIS

For more details circle NED-496 K on enclosed inquiry slip

it's BORROUGHS for
STEEL CABINETS

42" and 78" swinging door

There is always a place in industry for Borroughs' rugged, efficient, swinging-door cabinets. 36" wide—21" deep. Single central handle with built-in lock. Doors swing completely open. Shelves adjustable without nuts or bolts. There's a lot more that you should know . . . **so send for catalog.**

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OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

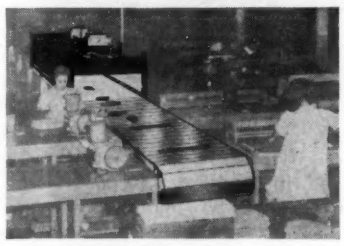
For more details circle NED-497 K on enclosed inquiry slip

EXTERNAL RESET TIMER
for rear of panel, panel mounting

Functions of delay and interval timers for opening or closing one or more switches after an adjustable period of time are combined in the modular Acrotime external clutch reset timer. Series BR is designed for mounting in the rear of control panels, within control cabinets, and other applications where the timing interval is changed frequently. Series BP is for panel mounting. Timer can be supplied with a single 15-amp single-pole double-throw load switch, two 10-amp single-pole double-throw load switches, or two relay switches, a 10-amp single-pole double-throw and a 10-amp single-pole single-throw switch for momentary contact actuation. All are for 120 to 240-v ac, 50 or 60-cycle operation and have adjustable ranges of 6, 15, 30, 60, and 120 sec; 5, 10, and 30 min; 1, 2, and 4 hr. • **General Time Corp.**, Haydon Div., 245 E. Elm St., Torrington, Conn.

For more details circle NED-498 K on enclosed inquiry slip

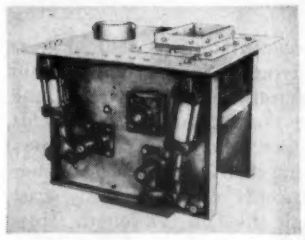
INFRARED OVEN CONVEYOR
for heat conditioning, drying



Easily assembled prefabricated conveyor includes an infrared oven developing temperatures to 500° F and is designed for heat conditioning, setting, and drying. Corrosion-resistant unit has an all aluminum alloy conveyor and is offered in standard 5-ft sections, in heights and widths to meet any requirement. Available specialties include vibrationless movement, variable speed, reversible controls, cleats for incline operation, and speeds to 100 fpm. • **Mercury Industries, Inc.**, Hillsdale, N. J.

For more details circle NED-499 K on enclosed inquiry slip

ROTARY FEEDER
vane type for powdered materials



Motor driven rotor controls the feed rate and a pneumatically operated control gate provides positive shut-off of material flow in the improved Series R rotary feeder. When a material cut-off point is reached, the rotor stops and the gate closes simultaneously, preventing overflow. The vane type unit is engineered to accurately feed flour, polyvinyl chloride, burnt lime, and other materials that aerate and flood. Three of the four models employ dual rotors and gates. Capacities are from 3 to 35 cfm at 75 per cent efficiency. • **Thayer Scale Corp.**, Thayer Park, Pembroke, Mass.

For more details circle NED-500 K on enclosed inquiry slip

THREAD REPLACEMENT INSERT
No. 10, 1/4-in., and 5/16-in., sizes

Supplied as a one-piece assembly, Keensert self-locking replaceable threaded sleeve insert facilitates thread replacement without drilling. It can be screwed by

hand into standard tapped hole. Keensert Kees, tightly fastened in the sleeve and pressed into the parent material with a small punch and hammer, lock the sleeve against rotation. Bolt is held tight by prevailing torque of the internal threads, or by free turning until its head bottoms on the plate being fastened, then wrench torqueing to preload the joint. No. 10, 1/4-in. and 5/16-in. internal thread sizes are available. • **Newton Insert Co.**, 6500 Avalon Blvd., Los Angeles 3, Calif.

For more details circle NED-501 K on enclosed inquiry slip

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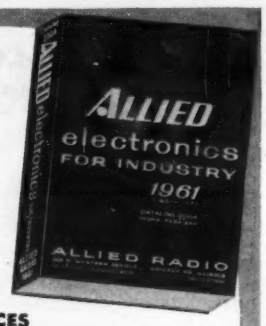
1961 ELECTRONIC SUPPLY CATALOG
572 PAGES • MOST COMPLETE



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For more details circle NED-502 K on enclosed inquiry slip

NOW—Increase O-Ring Life, and Reduce Costs with—
Parbak*

The only contoured and continuous back-up ring . . . simplified, easy-to-assemble, resists higher pressures!

Here's the first really new back-up ring in years . . . Test after test, both in the field and laboratory, proved that Parbaks* greatly increase O-ring life. In addition Parbaks* improve lubrication, are easy to assemble, and resist higher pressures — yet they **actually cost less** than back-up rings for similar useage!

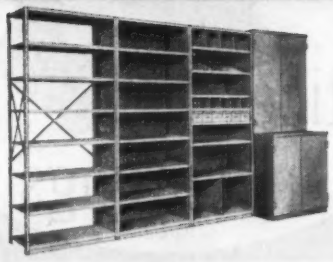
Get more facts about these unique rings, now. Send for catalog 5482.

* TRADE MARK

Parker SEAL COMPANY
Culver City, California and Cleveland, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-503 K on enclosed inquiry slip

it's BORROUGHS for
STEEL SHELVING



Everywhere that steel shelving is used, Borroughs is a name that commands high regard. Borroughs Steel Shelving is rigid and rugged—yet it's the most flexible, easiest to assemble shelving on the market. No special tools needed to assemble—no nuts or bolts needed to adjust shelves. **Send for catalog.**

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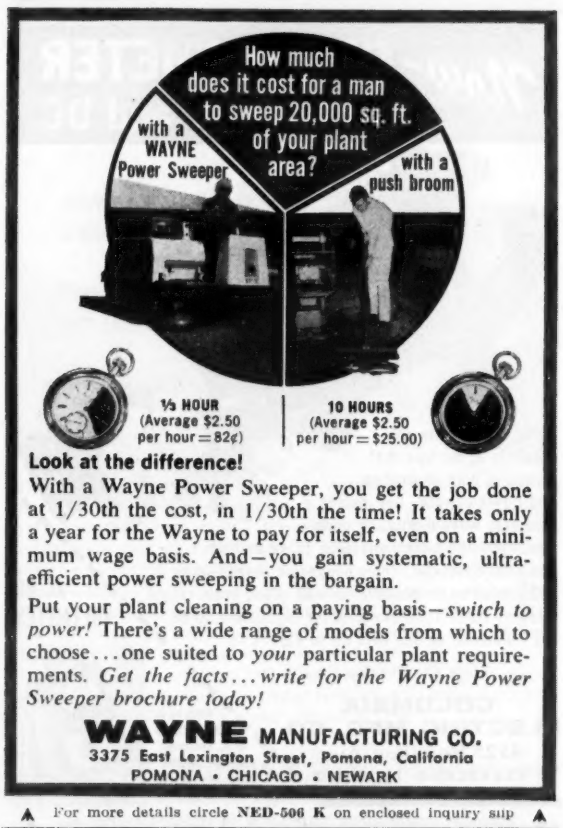
OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp KALAMAZOO, MICHIGAN

For more details circle NED-504 K on enclosed inquiry slip

▲ For more details circle NED-505 K on enclosed inquiry slip ▲



Look at the difference!

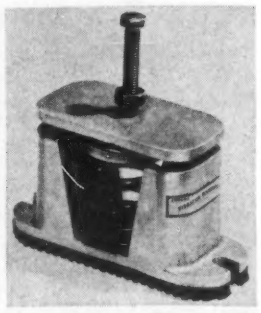
With a Wayne Power Sweeper, you get the job done at 1/30th the cost, in 1/30th the time! It takes only a year for the Wayne to pay for itself, even on a minimum wage basis. And—you gain systematic, ultra-efficient power sweeping in the bargain.

Put your plant cleaning on a paying basis—*switch to power!* There's a wide range of models from which to choose... one suited to *your* particular plant requirements. *Get the facts... write for the Wayne Power Sweeper brochure today!*

WAYNE MANUFACTURING CO.
3375 East Lexington Street, Pomona, California
POMONA • CHICAGO • NEWARK

▲ For more details circle NED-506 K on enclosed inquiry slip ▲

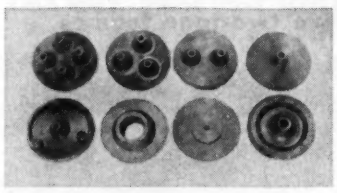
MACHINERY MOUNTINGS
isolate 350-cycle/min vibrations



Machine vibrations of 350 cycles per minute and higher are effectively isolated by Series SC Spring-Flex mountings which have average static deflections of 1in. Four types handle any mounting condition, and load capacities range from 25 to 15,600 lb. Mountings consist of telescoping cast steel housings containing 1 to 12 alloy steel springs. Neoprene sponge stabilizers provide lateral control, and antiskid corrugated neoprene pads bonded to base plate make it unnecessary to bolt equipment to floor. • **Vibration Mountings, Inc.**, 98-15 50th Ave., Corona 68, N. Y.

▲ For more details circle NED-508 K on enclosed inquiry slip ▲

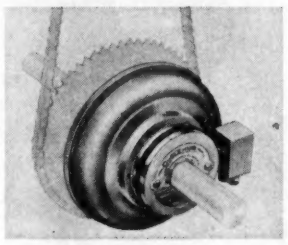
SEALING GROMMETS
holds wires, cables in blanked holes



Chafing, cutting, shorting, and rattling of wires, conduit tubes, pipe, loom, or cable passing through blanked holes in sheet metal are prevented by ARco sealing grommets. They are molded in any size, shape, or dimension from cellular sponge plastisol and feature spring steel snap-in retaining tabs for positive seal in the sheet metal. Grommets insulate electrically, eliminate sound and vibration, and seal out water, moisture, dust, gases, and fumes. They will not deteriorate in heat or cold. • **Automotive Rubber Co.**, 12550 Beech Rd., Detroit 39, Mich.

▲ For more details circle NED-509 K on enclosed inquiry slip ▲

ELECTROMAGNETIC CLUTCH-HUB
for control of machine motion



Usable as either the driving or driven member, this Cyclehub is an easily installed electromagnetic clutch-hub assembly. These slip-on units allow choice of special sheaves, pulleys, or sprockets to suit application. Open models are offered for stub or through-shaft mounting, while the optional shrouded models which protect the mechanism are for stub shaft use only. They are available in ½ to 20-hp ratings with a wide selection of bore sizes. Cyclematic power supply control units provide the necessary ⅓-amp 0 to 100-v dc from a 115-v ac source. They also select acceleration rate. • **Cycledynamics Inc.**, 19025 W. Davison Ave., Detroit 23, Mich.

▲ For more details circle NED-510 K on enclosed inquiry slip ▲

MOUNTED TACHOMETERS

NO WEARING PARTS

Indicator can be located up to 300′ from sender

7 Styles of Indicators

CUSTOM DIALS TO YOUR SPECIFICATIONS

Write for Literature and Prices

For
ENGINES
BOATS
CANNING MACHINERY
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LABORATORIES, ETC.

The ELECTRO-MECHANO CO.
261-1 E. Erie St. Milwaukee 2, Wis.

▲ For more details circle NED-512 K on enclosed inquiry slip ▲

HERRINGBONE*

SUITS... wire rope users in construction, mining, lumbering and in all kinds of manufacturing industries. Why? Well, because it's new, different and very, very strong. It's two ropes-in-one-rope; Lang lay *and* regular lay. Herringbone has excellent flexibility, resistance to shock and abrasion; smooth, easy operation over and around sheaves and drums; standout spooling properties and structural stability.

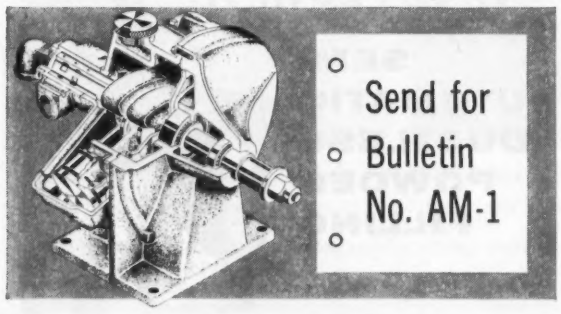
Ask Roebling's Wire Rope Division, Trenton 2, New Jersey for the full Herringbone facts.

*Reg. Applied for

ROEBLING
Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation

▲ For more details circle NED-513 K on enclosed inquiry slip ▲

Start heavy loads smoothly with high-torque air motor



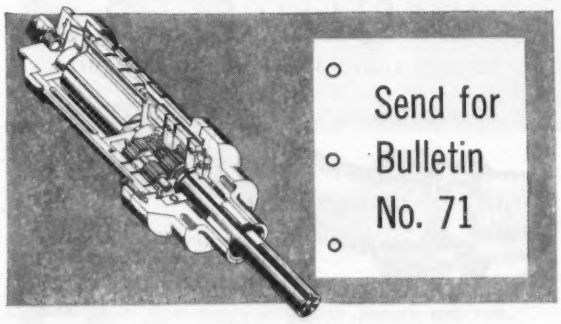
Here's an air motor that develops high starting torque . . . maintains smooth power under all speed and load conditions. Gardner-Denver's 5-cylinder design provides overlapping power impulses. At least two cylinders are always on power stroke—three during part of cycle. Starts heavy loads easily . . . accelerates smoothly. Six sizes from 2 to 16 hp. Direct drive or built-in gear reduction. Reversible and nonreversible models.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

▲ For more details circle NED-507 K on enclosed inquiry slip ▲

Rugged rotary air motors for low hp, heavy-duty service



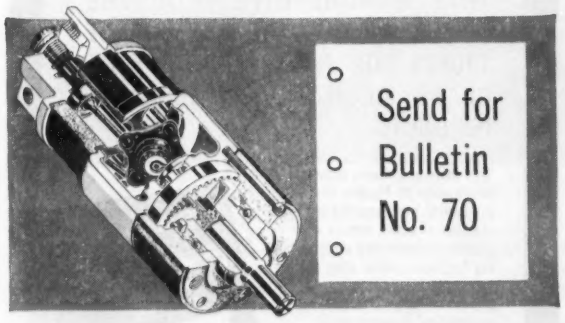
Compact rotary vane air motors designed by Gardner-Denver for low hp needs requiring heavy-duty service. Develop from ⅛ to 1½ hp. Ideal for jobs requiring quick starts and stops, continuous service or sparkless operation. All moving parts mounted in anti-friction ball or needle bearings. Plus the basic air motor advantages: positive, instantaneous control . . . continuous operation . . . no spark hazard . . . can't burn out. Can be mounted in any position.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

▲ For more details circle NED-511 K on enclosed inquiry slip ▲

Compact axial-piston air motor cuts limited-space problems



Gardner-Denver axial-piston design packs 2.7 hp in 6 3/16″ dia. x 13¾″, weighs 38 lb.—permitting use in places where space is limited. Rigid spindle, heavy-duty bearings and rugged case give this air motor the ability to carry an overhung load as great as 1000 lb. with no external spindle support. Speeds to 2600 rpm. Starting torque to 82 ft.-lb. Variable speed. Reversible. Nonsparking. Works in heat, moisture or dust. Can be mounted at any angle. Other sizes from 0.6 to 2.7 hp.

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In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Avenue, Toronto 16, Ontario

GARDNER-DENVER

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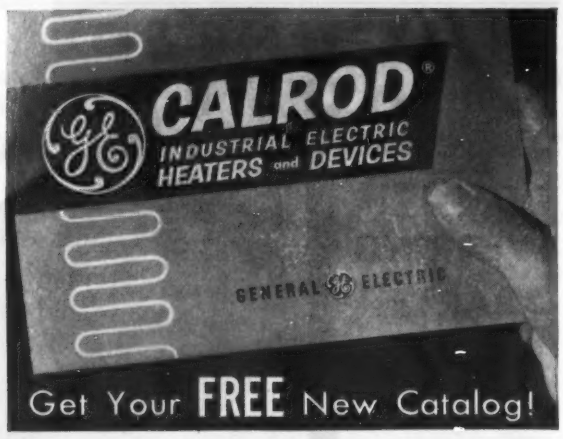

Complete Product Information on General Electric cartridge, tubular, finned tubular, oven, immersion, insertion, strip, vane-type, and space heaters; metal-melting pots and heaters; and control and accessories. The new catalog also contains:

Easy-To-Use Application Data for each product, including cross references for products, applications, controls, and accessories. Information and arrangement make it easy to select and order just the right product for any application.

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*Reg. Trade-mark of General Electric Co.

GENERAL ELECTRIC

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For Faster, Better Soldering

Use Rubyfluid

RUBYFLUID'S better soldering flux—liquid or paste—assures you of strong, neat unions, quickly and easily. RUBYFLUID'S fast acting formula wets out freely . . . is free from objectionable and harmful fumes . . . is economical to use.

For stainless steel soldering, use RUBY's Special Stainless Steel flux . . . designed specifically for this application . . . requires no extra heat, no extra equipment, will not corrode or discolor metal.

RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

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THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

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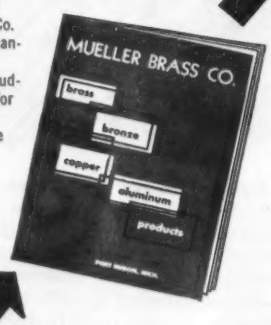

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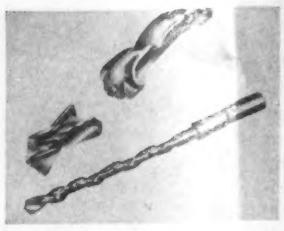
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

OIL HOLE DRILL has two-flute replaceable tip



After repeated sharpenings have expended usable cutting tip area, a new tip can be brazed to the undamaged body of the Bi-Trip oil hole drill at a fraction of the original drill cost. The two-flute replaceable tips are of carbide tipped, solid tungsten carbide, or solid high speed steel. Each interlocks and is positively located in the drill body. Diameters from 5/16 to 1 in. have two coolant holes for constant coolant flow to the cutting lips at pressures up to 200 psi. Design of the drills permits drilling the entire hole depth in one pass. Self-centering, free-cutting Tru-Kut radius points are optional. • **Detroit Reamer & Tool Co.**, 780 W. Maple Rd., Birmingham, Mich.

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SAFETY SPECTACLES with attractive two-tone frames

Desired eye protection is combined with attractive appearance in Glentone safety spectacles for both men and women. Eye sizes available are 44, 46, and 48 mm; bridge sizes, 18, 20, and 24 mm. Spatula temples are offered in all sizes. Frames in charcoal gray on crystal are made from cellulose acetate butyrate. • **Glendale Optical Co.**, 600 W. Merrick Rd., Valley Stream, L. I., N. Y.

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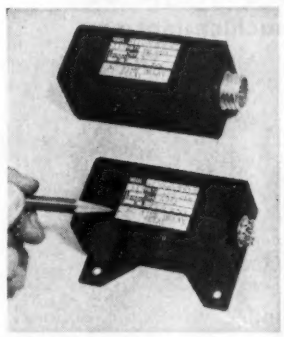
TIME DELAY RELAYS have 0.020 to 300-sec range



Solid-state timing module is incorporated in this line of time delay relays which include a built-in double-pole double-throw, 2-amp control relay. Fixed time delay occurs on pull-in and may be specified anywhere between 0.020 and 300 sec. Accuracy ratings are ±10 per cent or ±5 per cent of nominal time delay with these variations: Voltage, ±10 per cent, with 115 v nominal; frequency, 55 to 65 cps or 380 to 420 cps; and temperatures from −55 to 125° C. Special models with better accuracy, longer and adjustable time delays, and time delay action on drop-out are available. • **Tempo Instrument, Inc.**, Box 338, Hicksville, L. I., N. Y.

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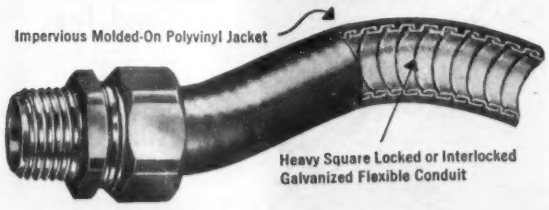
Moisture just can't penetrate

LIQUATITE®

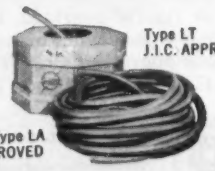
FLEXIBLE LIQUID-TIGHT WIRING CONDUIT



. . . nor can grease, dirt, oils, alcohols or most other corrosive vapors, acids, or other harmful elements. Circuits are *completely* protected.

Liquatite can be installed as quickly and easily as Flexible Conduit, yet assures the protection of Rigid Conduit. It follows contours, absorbs motion, vibration and shock indefinitely.

Find out why Liquatite is serving industry everywhere. Write today for free sample, costs and name of Distributor nearest you.



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CAMPBELL SENTRY SLINGS*

. . . the Sling Chain that "talks"

The WARNING RING tells you immediately when the sling has been overloaded . . . it elongates visibly . . . before the chain itself is damaged! Your eye *can see* the difference! Greater safety, greater economy!

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TONG TEST is the only ammeter of its type that measures both alternating and direct current. Get instant readings, without shutting down equipment, by merely snapping tongs around electrical conductor. Interchangeable ranges up to 1000 amperes, impossible to read wrong scale. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

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AC-DC VOLTMETER

Reads up to 600 volts, AC or DC. Convenient, accurate, compact. Model UV-1 $25.00 complete with voltage leads.

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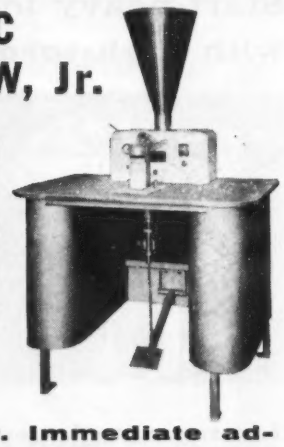
SEMI AUTOMATIC DUSTLESS POWDER FILLING



Great flexibility. Immediate adjustment to different densities. Switches from non-pulsating to tamping action, at will.

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PNEUMATIC *Packaging and Bottling Equipment*

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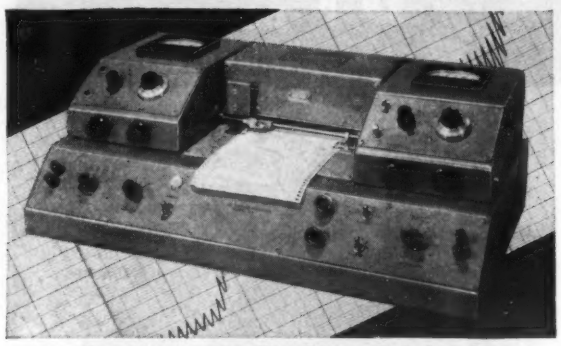
NEW ANSWER... to precise polarography



Easy to use recording Electro-Polarizer by American Optical gives accurate analyses fast!

The AO Electro-Polarizer is well suited for a variety of qualitative and quantitative applications in industrial chemistry as well as biological, medical, organic, inorganic and physical chemical analyses.

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American Optical COMPANY
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NEW *Taylor* BLOW-DOWN TIMER!

SIMPLE DESIGN

EASY TO ADJUST

MAINTENANCE FREE

The 284RJ Blow-Down Timer is a single function repeating cycle timer. It is designed to regulate a pneumatic control valve or other air operated device for two to thirteen seconds, once every one or two minutes. The pneumatic device may also be operated continuously.

This versatile instrument can be adapted to many applications, including removal of condensate from press platens, the operation of continuous boiler blow-down systems, and similar repetitive functions at fixed intervals.

For more information call your Taylor Field Engineer, or write for Sales **Bulletin No. 98351.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Ont.

Taylor Instruments **MEAN ACCURACY FIRST**

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FLAT BED LADDER TRUCK for maintenance and stock picking

The 66-in. high top step ladder with extension work tray equips the Rol-Away S-7FB flat bed ladder truck for heavy stock picking and maintenance work up to 12 ft. Truck maneuvers easily in restricted space on ball bearing rubber tired wheels and has 2000-lb load capacity. Made of aluminum alloy, truck weighs about 130 lb. Spring-loaded ladder locks to floor under operator's weight. • **Rol-Away Truck Mfg. Co.,** 6143 S. E. Foster Rd., Portland 6, Oreg.

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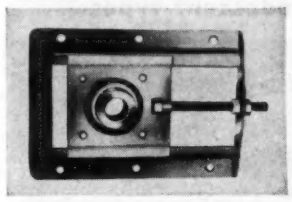
TAKE-UP BEARING UNIT offered with or without frame



Inexpensive stamped bearings which are prelubricated at time of assembly are incorporated in this light duty take-up bearing unit. Laminated neoprene felt seals are used in the bearings to seal the grease in and foreign matter out. Bearings are available for shaft sizes from 5/8 to 1 in. Economical unit is available with or without frame. • **Roberts Mfg., Inc.,** Salina, Kans.

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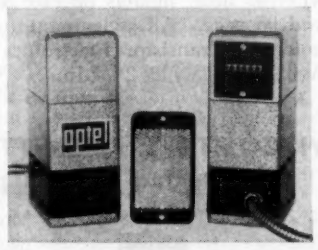
PHOTOELECTRIC COUNTING SYSTEM packaged unit plugs into line



Optics, light source, power supply, photoresistor, transistor amplifier, and six-digit pushbutton reset counter are all contained in 6 7/8 x 3 1/2 x 2 1/2-in. package. Optel Model PLS20 photoelectric counting system is merely plugged into line to operate. Counter is driven directly from transistor amplifier at rates up to 600 counts per minute. In the single lens reflex system, light is projected and returned to photodetector via the corner reflector shown. Unit is virtually unaffected by gross misalignments and changing levels of ambient light. Retroreflex tapes and paint can likewise be employed. System is priced at $167.50. • **Presin Co.,** 2014 Broadway, Santa Monica, Calif.

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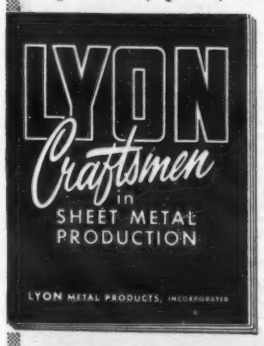

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General Offices, 1022 Monroe Avenue, Aurora, Illinois

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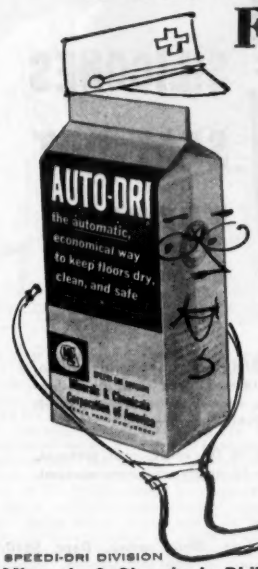

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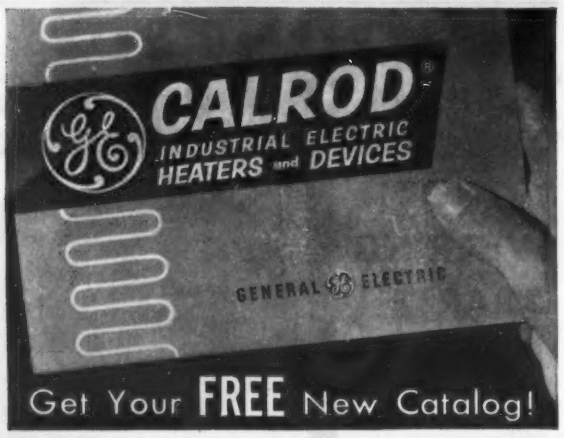

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For Faster, Better Soldering

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RUBY CHEMICAL CO.
72 S. McDowell Street Columbus 8, Ohio

Rubyfluid

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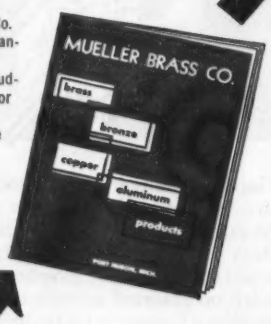

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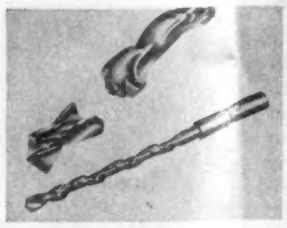
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

OIL HOLE DRILL has two-flute replaceable tip



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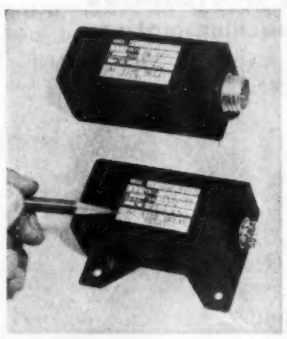
TIME DELAY RELAYS have 0.020 to 300-sec range



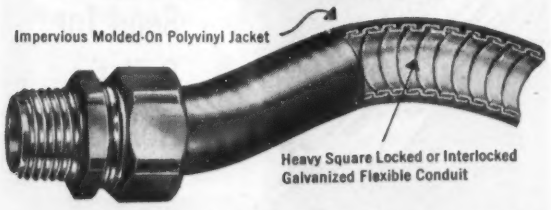
Solid-state timing module is incorporated in this line of time delay relays which include a built-in double-pole double-throw, 2-amp control relay. Fixed time delay occurs on pull-in and may be specified anywhere between 0.020 and 300 sec. Accuracy ratings are ±10 per cent or ±5 per cent of nominal time delay with these variations: Voltage, ±10 per cent, with 115 v nominal; frequency, 55 to 65 cps or 380 to 420 cps; and temperatures from −55 to 125° C. Special models with better accuracy, longer and adjustable time delays, and time delay action on drop-out are available. • **Tempo Instrument, Inc.**, Box 338, Hicksville, L. I., N. Y.

▲ For more details circle NED-520 K on enclosed inquiry slip ▲

Moisture just can't penetrate

LIQUATITE®

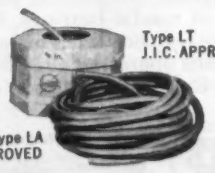
FLEXIBLE LIQUID-TIGHT WIRING CONDUIT



. . . nor can grease, dirt, oils, alcohols or most other corrosive vapors, acids, or other harmful elements. Circuits are *completely* protected.

Liquatite can be installed as quickly and easily as Flexible Conduit, yet assures the protection of Rigid Conduit. It follows contours, absorbs motion, vibration and shock indefinitely.

Find out why Liquatite is serving industry everywhere. Write today for free sample, costs and name of Distributor nearest you.



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Type LA UNDERWRITERS' APPROVED

ELECTRI-FLEX COMPANY
P.O. BOX 128H • ROSELLE, ILLINOIS

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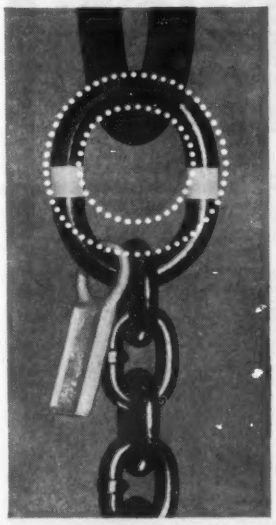
CAMPBELL SENTRY SLINGS*

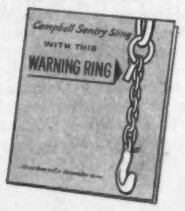
. . . the Sling Chain that "talks"



The WARNING RING tells you immediately when the sling has been overloaded . . . it elongates visibly . . . before the chain itself is damaged! Your eye *can see* the difference! Greater safety, greater economy!

*Patent Applied For

Write today for Brochure #1022.



CAMPBELL CHAIN *Company*

FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: E. Cambridge, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

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***Now*- ONE AMMETER for both AC and DC**

TONG TEST is the only ammeter of its type that measures both alternating and direct current. Get instant readings, without shutting down equipment, by merely snapping tongs around electrical conductor. Interchangeable ranges up to 1000 amperes, impossible to read wrong scale. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

AC-DC VOLTMETER

Reads up to 600 volts, AC or DC. Convenient, accurate, compact. Model UV-1 $25.00 complete with voltage leads.

Write for Catalog ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

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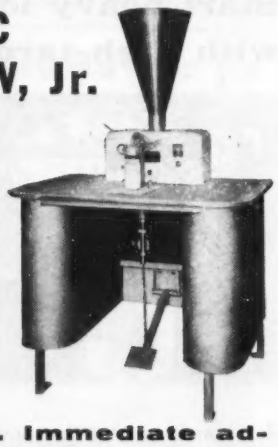
PNEUMATIC VACUFLOW, Jr.

SEMI AUTOMATIC DUSTLESS POWDER FILLING



Great flexibility. Immediate adjustment to different densities. Switches from non-pulsating to tamping action, at will.

PNEUMATIC SCALE CORP., LTD., 71 Newport Ave., Quincy 71, Massachusetts. In: *New York, 117 Liberty Street; Chicago, 360 No. Michigan Avenue; Dallas, 318 No. Pearl Street; Rochester, 709 Monroe Avenue.* Also: *Fred Todt Co.: 2021 South Hill Street, Los Angeles; 1485 Bayshore Blvd., San Francisco; 105 Orcas Street, Seattle.*

PNEUMATIC ***Packaging and Bottling Equipment***

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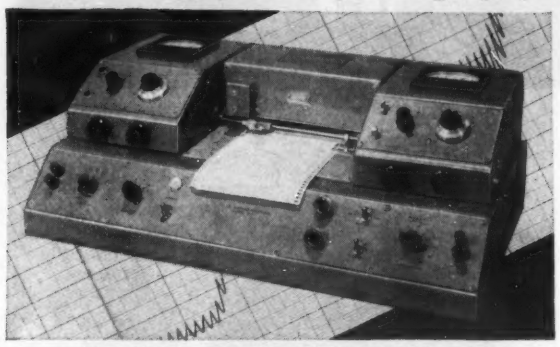
NEW ANSWER... to precise polarography



Easy to use recording Electro-Polarizer by American Optical gives accurate analyses fast!

The AO Electro-Polarizer is well suited for a variety of qualitative and quantitative applications in industrial chemistry as well as biological, medical, organic, inorganic and physical chemical analyses.

Select any polarization range or rate you desire with complete confidence. Voltages are set against a standard cell and the recorder calibrated to insure consistency of results. Instantaneous clutch release gives you an exact synchronization of chart to span voltage drive.

Compact and portable . . . only 45 pounds. Lightest instrument of its kind sold today.

American Optical COMPANY
INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

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NEW *Taylor* BLOW-DOWN TIMER !

SIMPLE DESIGN

EASY TO ADJUST

MAINTENANCE FREE

The 284RJ Blow-Down Timer is a single function repeating cycle timer. It is designed to regulate a pneumatic control valve or other air operated device for two to thirteen seconds, once every one or two minutes. The pneumatic device may also be operated continuously.

This versatile instrument can be adapted to many applications, including removal of condensate from press platens, the operation of continuous boiler blow-down systems, and similar repetitive functions at fixed intervals.

For more information call your Taylor Field Engineer, or write for Sales **Bulletin No. 98351.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Ont.

Taylor Instruments **MEAN ACCURACY FIRST**

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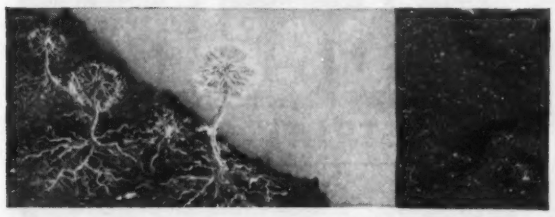
MOSINEE MAKES **MAGIC** WITH PAPER



NeverMold 101 Papers—defy fungal attacks!

- Ideal for packaging products shipped or stored in humid or tropical climates.
- Has highest fungicidal activity of any mold-resistant paper.
- Permanently effective . . . not affected by extreme climate conditions.
- Extremely low toxicity . . . treated with fungicides approved by government agencies for many uses where intimate skin contact is required.
- Ideal for bags, barrier materials, ground coverings, crop mulching, military packaging and wrappings, etc.
- Uniform quality—from roll to roll . . . carload to carload.

FREE DATA FILE plus a "PAPER TERMS" DICTIONARY

MOSINEE PAPER MILLS COMPANY
Mosinee, Wisconsin *Write dept. NED-10*

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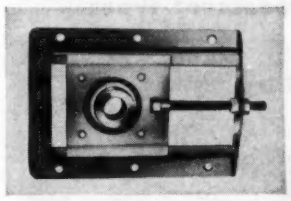
FLAT BED LADDER TRUCK for maintenance and stock picking

The 66-in. high top step ladder with extension work tray equips the Rol-Away S-7FB flat bed ladder truck for heavy stock picking and maintenance work up to 12 ft. Truck maneuvers easily in restricted space on ball bearing rubber tired wheels and has 2000-lb load capacity. Made of aluminum alloy, truck weighs about 130 lb. Spring-loaded ladder locks to floor under operator's weight. • **Rol-Away Truck Mfg. Co.,** 6143 S. E. Foster Rd., Portland 6, Oreg.

▲ For more details circle **NED-528 K** on enclosed inquiry slip ▲

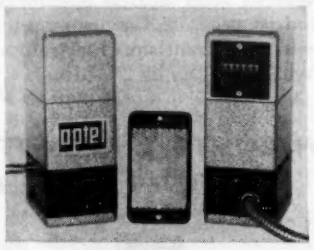
TAKE-UP BEARING UNIT offered with or without frame



Inexpensive stamped bearings which are prelubricated at time of assembly are incorporated in this light duty take-up bearing unit. Laminated neoprene felt seals are used in the bearings to seal the grease in and foreign matter out. Bearings are available for shaft sizes from 5/8 to 1 in. Economical unit is available with or without frame. • **Roberts Mfg., Inc.,** Salina, Kans.

▲ For more details circle **NED-529 K** on enclosed inquiry slip ▲

PHOTOELECTRIC COUNTING SYSTEM packaged unit plugs into line



Optics, light source, power supply, photoresistor, transistor amplifier, and six-digit pushbutton reset counter are all contained in 6⅞ x 3½ x 2½-in. package. Optel Model PLS20 photoelectric counting system is merely plugged into line to operate. Counter is driven directly from transistor amplifier at rates up to 600 counts per minute. In the single lens reflex system, light is projected and returned to photodetector via the corner reflector shown. Unit is virtually unaffected by gross misalignments and changing levels of ambient light. Retroreflex tapes and paint can likewise be employed. System is priced at $167.50. • **Presin Co.,** 2014 Broadway, Santa Monica, Calif.

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MOSINEE MAKES **MAGIC** WITH PAPER

TOUGH paper for toughest jobs—Mosinee SCRIMTEX

- Made with ¼" or ½" mesh scrim of rayon or fiberglass—an integral part of paper and *not a laminate.*
- For heavy-duty jobs—multi-wall bags, car liners, envelopes, saturating, tarpaulins, wrappings, packaging materials, plastic reinforcement, etc.
- Scores high in puncture, tensile and tear tests. Remains strong at temperatures from −75° F. to +425° F.
- You can print on it, coat it, laminate it or impregnate it.
- Uniform quality—from roll to roll . . . from carload to carload.

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MOSINEE PAPER MILLS COMPANY
Mosinee, Wisconsin *Write dept. NED-10*

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DO YOU NEED a low-cost source of metal fabricating?

Three large, well equipped plants at **Aurora, Ill., York, Pa.** and **Los Angeles** geared to economical production. Experienced in handling thousands of special items . . . products, parts, sub-assemblies, merchandising units, made to your specifications.

LYON *Craftsmen* in SHEET METAL PRODUCTION
LYON METAL PRODUCTS, INCORPORATED

Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing. Sound design and engineering counsel.

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It tells All!

LYON METAL PRODUCTS, INC.
General Offices, 1022 Monroe Avenue, Aurora, Illinois

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Here's ready-made FIRST AID FOR SLIPPERY FLOORS!

AUTO-DRI® . . . is an economical prescription against accidents. Your broom brigade easily spreads this carpet-of-safety on with rake or broom. . . the thirsty granules instantly soak up oil, grease, liquids . . . pull deep deposits out of floor. Leave AUTO-DRI on, or remove and reuse until saturated. AUTO-DRI is mineral . . . won't burn. **Costs only a fraction of a cent per sq. ft. of protection!**

Write for generous ***FREE SAMPLE***

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Minerals & Chemicals Philipp CORPORATION
397 ESSEX TURNPIKE MENLO PARK, NEW JERSEY

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MOSINEE MAKES **MAGIC** WITH PAPER

Control moisture penetration with MOSINEE moisture-resistant papers

- You can have papers with the exact degree of moisture resistance you specify.
- Unvarying Mosinee quality permits you to maintain quality control of such products as multi-wall paper bags, electrical insulation, furniture and other product wrappings, balings, building insulation and tarpaulins.
- You get paper made to the same formula and basis weight from roll to roll . . . from carload to carload.

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. . . praised by the experts as BEST BUYS IN ELECTRONICS

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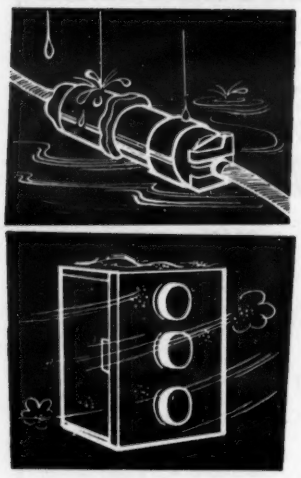

SILICONES SEAL-OUT TROUBLE

Dow Corning SILICONE COMPOUNDS seal out condensation, dust, fly ash, alkalis, acids, corrosive fumes and other contaminants . . . prevent grounds, shorts and arcs . . . lubricate and protect gaskets on special enclosures.

Keep an applicator tube handy to fill voids, coat surfaces, lubricate gaskets and threads — to apply wherever contaminants could cause trouble.

FREE SAMPLE and information. Write today. Dept. 5810.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

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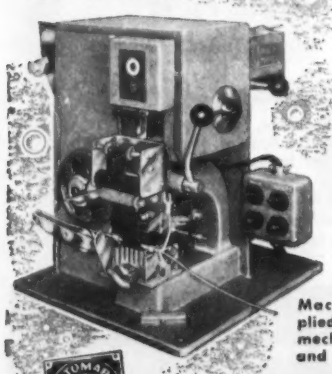
Automark®

MOTOR DRIVEN or HAND OPERATED

WIRE AND TUBE MARKERS

WITH SPEEDS UP TO 17,000 FEET PER HOUR



Equipped with 110 V AC Motor.
Adjustable stamping depth.
Foil feed adjustable and automatic.
Feed adjustment 1" to 18"
Accommodates wire size AN-26 thru AN-0000, and tubing from 1/16" to 1-1/2" O. D.
Heat range from 100° F. to 600° F. controlled by thermostat and thermometer.
Machine can also be supplied with automatic cut-off mechanism, bench mounting and foot pedal operation.

DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER ST. LOUIS 10, MO

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SOLAR ENERGY CONVERTERS transform sunlight to electricity

Easily interconnected for desired voltage - current output, Solar Modules are small self-contained power generating units mounting five shingled, plastic-encased silicon solar cells. They can be used separately or arranged in series, parallel, or series-parallel. Each module measures 1 x 2½ in. and weighs about 1/6 oz. Type H5B typically provides 32 ma at 2 v, while Type H5C develops 42 ma at 2 v in sunlight with an illumination level of 100 mw/sq cm. List prices are $16 and $22.40. They can be used to power radios, relays, models, and exhibits as well as charge batteries. Switching and electric eye uses for counting, sorting, and monitoring are possible. • **Hoffman Electronics Corp.**, Semiconductor Div., 1001 Arden Dr., El Monte, Calif.

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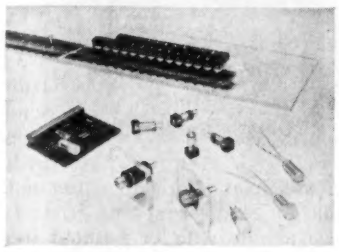
INDICATOR LIGHTS in neon and incandescent types



Line of MCL miniature cartridge - type indicator lights for data processing and industrial control systems includes both neon and incandescent lamps, with pin or wire lead terminals, and square or round lenses in eight colors. Pin terminal lamps plug into firm's front or back mounted MCH Series sockets, or in SLA Strip Lite assemblies, in banks on ⅜-in. centers. They can also be spring clip mounted. Incandescent lamps range from 2.7 to 28.0 v, whereas neon models operate at 90 and 135 v dc, 65 and 95 v ac. All styles mount in a 0.312-in. diameter hole. • **Transistor Electronics Corp.**, 3357 Republic Ave., Minneapolis 26, Minn.

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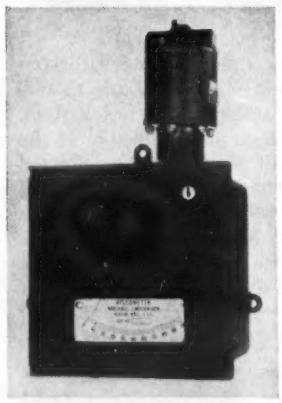
VISCOSITY TRANSMITTER indicating type is pneumatic



Model IP Viscometer for use with any Norcross measuring elements in open tanks, pressure or vacuum vessels, or in pipe lines, indicates viscosity and provides a 3 to 15-psi control output. The air signal permits the use of all types of pneumatic controls. With suitable transducers or converters, various electric receivers can be used with the Viscometer. Falling piston principle of measuring viscosity employed provides high sensitivity and repeatability. • **Norcross Corp.**, Dept. N29, 247 Newtonville Ave., Newton 58, Mass.

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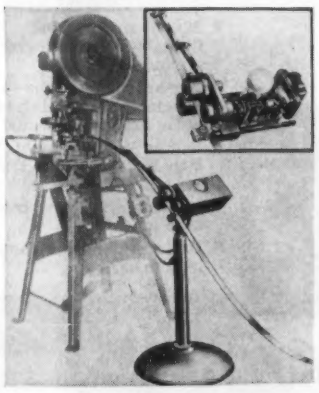
MACHINE STOP for punch presses, other machines



Variations in stock thickness, lengths of stock below a preset minimum, defects such as burrs and tears in stock, and the approaching coil end will cause a machine to stop when detected by the Feed - Off mechanical machine stop. Designed for punch presses and other machines, it prevents die damage, saves downtime, and allows more machines to be run at full speed with fewer operators. Portable unit is quickly installed, requiring only a clutch-tripping solenoid on the machine itself. • **Rands Products, Inc.**, Dept. 2C, Willimantic, Conn.

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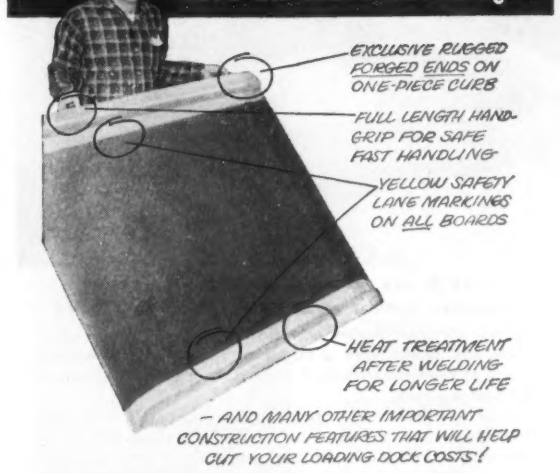
Only **B&P MAGNESIUM DOCKBOARDS** have all these advantages



Compare the B & P Dockboard features before you place your next order. Write today for the fact-packed B & P Dockboard folder!

BROOKS & PERKINS, Inc.
1928 WEST FORT STREET • DETROIT 16, MICHIGAN

AMERICA'S LARGEST MANUFACTURER OF MAGNESIUM ASSEMBLIES

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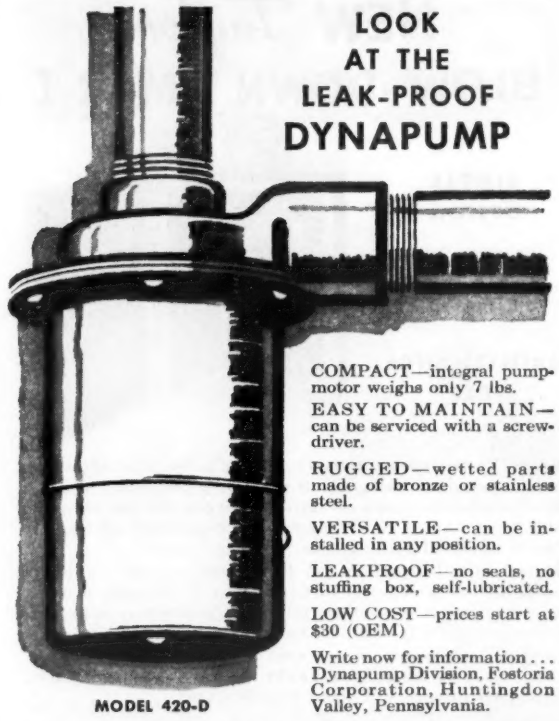
LOOK AT THE LEAK-PROOF DYNAPUMP



MODEL 420-D

COMPACT—integral pump-motor weighs only 7 lbs.

EASY TO MAINTAIN—can be serviced with a screwdriver.

RUGGED—wetted parts made of bronze or stainless steel.

VERSATILE—can be installed in any position.

LEAKPROOF—no seals, no stuffing box, self-lubricated.

LOW COST—prices start at $30 (OEM)

Write now for information . . . Dynapump Division, Fostoria Corporation, Huntingdon Valley, Pennsylvania.

DYNAPUMP®

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Seiberling

INDUSTRIAL GLOVES

Longer wear in every pair! Available in various sizes, gauges, lengths, colors and surface finishes. Natural rubber or genuine Dupont neoprene latex. Contoured fingers for more comfort, better fit.

EXCLUSIVE PATENTED **FIRMGRIP®** SAFETY GRIP MOULDED INTO FINGERS AND PALM

SEND FOR CATALOG NO. G-2 of complete glove line

FREE TEST OFFER! Write us on your firm's letterhead for sample gloves for test purposes.

SEIBERLING LATEX PRODUCTS
New Bremen, Ohio

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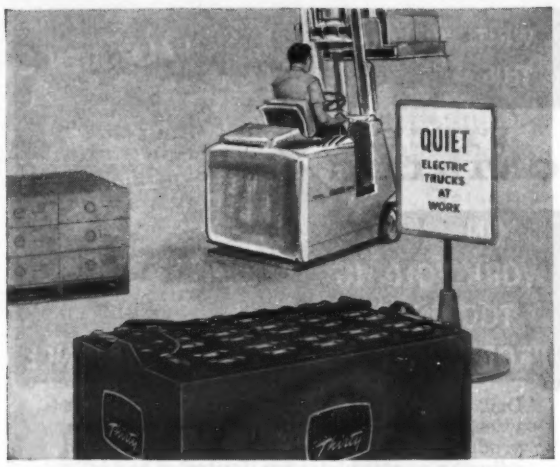

Electric Trucks REDUCE NOISE LEVELS

The quiet operation of battery-powered electric trucks eliminates distraction and annoyance to workers performing other production work. Also, quiet operation is an outstanding advantage when it is necessary to give verbal instructions to truck operators or to signal them by a dispatch system. Finally, quiet electric truck operation is a valuable safety factor.

Electric truck users generally agree, too, on Gould Batteries for longer life. With the vital new Silconic Plate, Gould Batteries offer up to 25% longer life.

Write for booklet "Why We Use Battery-Electric Industrial Trucks." Gould-National Batteries, Inc., Trenton 7, N. J. In Canada, write to Gould-National Batteries of Canada, Ltd., 1819 Yonge Street, Toronto, Ontario.

More Power to you from **GOULD**

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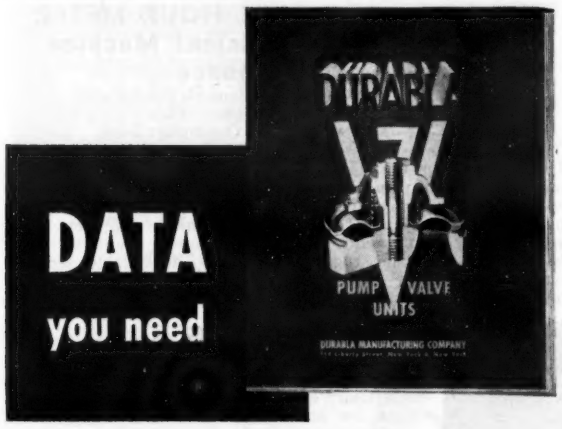

to select improved valves for your pumps

Famous for sustained efficiency under widely varied service conditions, DURABLA Pump Valve Units have been redesigned to incorporate a new taper-lock* stud, self-locking nut and drop-on guard. This improved design offers *seven new points of superiority.*

The booklet shows how DURABLA Pump Valve Units can benefit your pumps. Includes design details, materials available, table of seat sizes and dimensions. Send for free copy of Form 400 NED100.

DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

*Patent Pending DM-29

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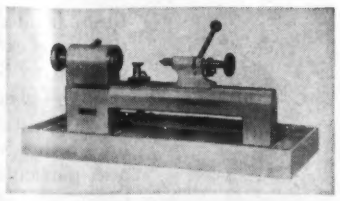
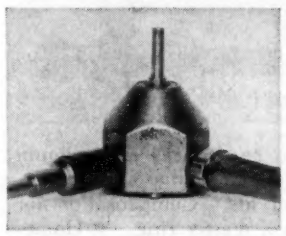
INSTRUMENT LATHE
has ½-in. collet capacity



Fairly large parts which require delicate operations can be machined on this ½-in. collet capacity instrument lathe. Started and stopped by a foot switch, it has an enclosed headstock driven through a V-belt by a ¼-hp motor. Stepless speed control selects spindle speeds from 0 to 4000 rpm. The foot switch also controls the optional coolant pump. Lathe can be furnished for micro-drilling or as a turret lathe for second operation work. Various accessories are available. • **Louis Levin & Son, Inc.**, 3610 S. Broadway, Los Angeles 7, Calif.

▲ For more details circle **NED-548 K** on enclosed inquiry slip ▲

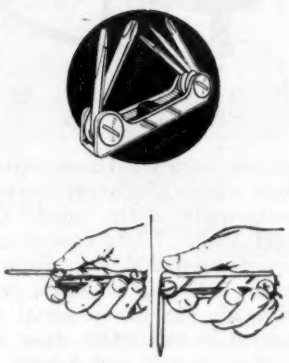
PORTABLE PUMP KIT
driven by portable electric tool



Self-priming Liquid Lifter portable pump is attached to and driven by an electric drill through its stainless steel shaft. It is made from molded nylon and is available in a kit which includes four sizes of intake tubing, three metal and one rubber, permitting use through an opening as small as 5/16 in. Used with a ¼-in., 2400-rpm drill and a 5/16-in. suction line, the pump will move 7.4 qt of water per minute and 6.9 qt of No. 30 oil at 160° F. It can also be driven by direct shaft coupling to motors of similar power. Kit sells for $18.95. • **Huber Industries, Inc.**, 4960 Hillside Ave., Cincinnati, Ohio.

▲ For more details circle **NED-549 K** on enclosed inquiry slip ▲

SCREWDRIVER SET
five blades fold into handle



Two flat blades and two Phillips blades that will fit most screw types and sizes fold into the handle of the compact No. 45 Fold Uni Drive screwdriver set. Fifth blade is a point awl, used as a screw starter, scratch awl, or center punch. Each can be used straight out or at right angles for higher leverage. All blades are assembled in one unit selling for $1.69. • **Eklind Tool & Mfg. Co.**, 2627-NE N. Western Ave., Chicago 47, Ill.

▲ For more details circle **NED-550 K** on enclosed inquiry slip ▲

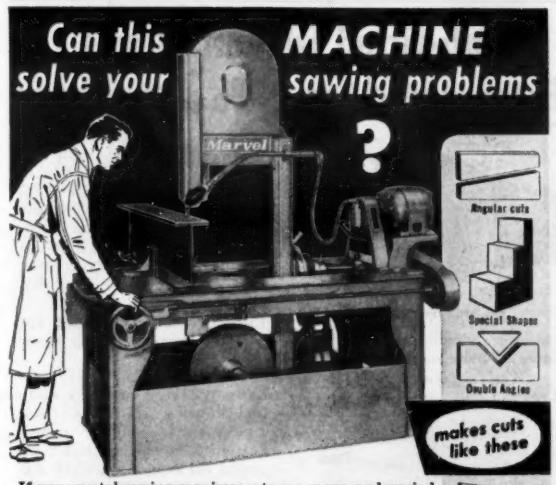
NEW LOW-COST HOIST

CAPACITIES: ¼, ½, 1, and 2 tons—New Type J wire rope hoists, in three frame sizes, give you important industrial quality features at no extra cost. R&M high torque hoist motor has highest time rating of any in the low price hoist field—30 min., 55° C. Magnetic disc type motor brake, Weston-type load brake, jam-proof upper and lower limit switches—all contribute to long, virtually trouble-free life. Tough aluminum alloy frame. Full magnetic push-button control with reduced push-button voltage. Plain, geared, or motorized trolleys available. Request Bulletin 905 today. **Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio.**

ROBBINS & MYERS

hoists, cranes, Moyno® pumps, motors, Propellair® fans

▲ For more details circle **NED-552 K** on enclosed inquiry slip ▲

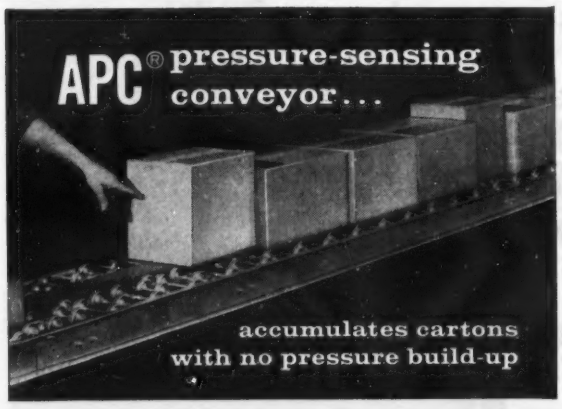


If your metal sawing requirements are many and varied . . . if you have to cut the smallest, most delicate work or heavy solids up to 18"x18" . . . if you cut-off bar stock, pipe, tubing, moulding or structural shapes—then this MARVEL No. 8 Band Saw is the machine for you.

Not only is the MARVEL No. 8 Band Saw a truly universal machine capable of handling virtually any metal sawing job, but it does its work with unmatched efficiency, economy, and ease of operation. Many exclusive No. 8 Band Saw design and operating features such as vertical column design, control tower visibility, column and blade tilting to any angle up to 45° right or left of vertical for cutting at an angle or miter, are described in Bulletin 875. Write for it today. If you'd like a demonstration, mention the fact in your inquiry, and we'll arrange it at your convenience.

ARMSTRONG-BLUM MFG. CO.
5700 West Bloomingdale Avenue, Chicago, U.S.A.

▲ For more details circle **NED-553 K** on enclosed inquiry slip ▲



Rapistan APC (adjustable pressure) conveyor reduces damaged cartons and contents by reducing line pressure to the practical minimum. In this photo, the conveyor belt is running, but forward pressure is so low that a finger's touch can stop the entire line. The new, safe way to accumulate goods under power in processing, warehousing and shipping operations.

Write for new Bulletin 1200 Illustrating APC Conveyor.

Rapistan conveying equipment

The RAPIDS-STANDARD CO., Inc.
747 Rapistan Building, Grand Rapids 2, Michigan

▲ For more details circle **NED-547 K** on enclosed inquiry slip ▲

Rollers on the Rapistan APC (adjustable pressure) conveyor accumulate materials without line pressure build-up, carry loads up to 100 lbs. per foot. Carton damage is eliminated. Separates and spaces articles at start of closely packed line; needs no special sections or parts for transfers on or off APC line. Roller widths up to 54". Cut cost of warehousing, processing, shipping operations and speed movement of goods with Rapistan APC Live Roller Conveyor.

Write for new Bulletin showing details and applications of Rapistan APC Live Roller.

Rapistan conveying equipment

The RAPIDS-STANDARD CO., Inc.
747 Rapistan Building, Grand Rapids 2, Michigan

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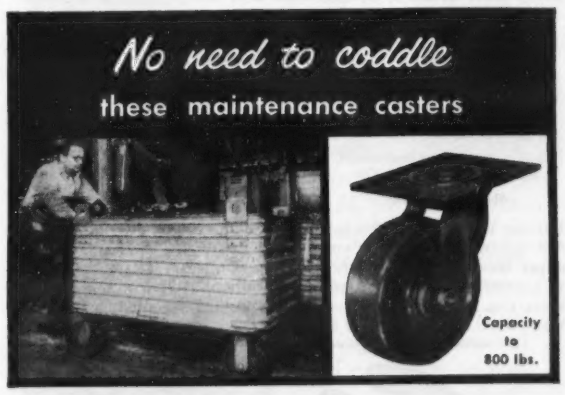

Keep Equipment rolling with RAPISTAN® 4300 Series Casters

Tough, cold-forged casters for general maintenance applications, under scrap trucks, tool and work benches, movable tables, dollies, etc. Up to 800 lbs. capacity. 5", 6", 8" wheel diameters. Steel, Durastan® plastic, rubber, or famous Rapistan MB demountable industrial wheels. Engineered for long service under severe demands.

Write for catalog of Rapistan® maintenance casters.

Rapistan fastest growing name in casters

The RAPIDS-STANDARD Co., Inc.
768 Rapistan Bldg., Grand Rapids 2, Mich.

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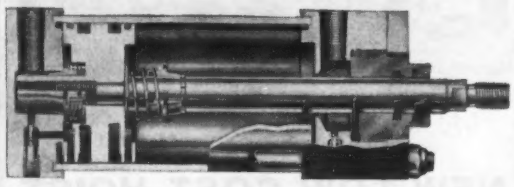
Premiering...



dimensionally interchangeable
square-end air and hydraulic cylinders

by
Mead Specialties Co.
4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle NED-555 K on enclosed inquiry slip ▲

Job-fitted Edmont gloves Extracoated for 20% extra wear

No. 404 SNORKEL

PLASTIC COATED, with special compounds designed to fit job requirements. Edmont's exclusive *Extra*coat on palm and fingers gives 20% longer wear, normal coating on back retains full flexibility. All styles have wing thumb and preflexed fingers for better fit and grip.

Extra-Flexible Snorkel for maximum dexterity, non-slip grip even in grease. 2-piece jersey liner, seamless palm. 6 *Extra*coated styles.

No. 36 MONKEY GRIP

Long Wearing Monkey Grip for abrasion resistance. New 2-piece jersey liner for greater flexibility; improved vinyl compound for longer wear. 10 *Extra*coated styles, 3 with triple-thick palm for severe abrasive service.

Heavy Duty Grappler for maximum cut resistance, excellent wet grip. Reinforced Durox plastic coating outwears ordinary plastic 50%, outwears expensive leather. 5 *Extra*coated styles.

No. 924 NEOX

NEOPRENE COATED, with special reinforced compounds for best *all-around* protection against chemicals, oils, heat, cutting and abrasion. All styles have wing thumb and preflexed fingers for better fit and grip.

Flexible Neox for better liquid-proof protection than ordinary neoprene. 8 *Extra*coated styles.

Heavy Duty Redmont for maximum wear and protection. 6 *Extra*coated styles.

No. 151 WERX

PLASTIC IMPREGNATED, for replacing short-lived cotton gloves. "Miracle fabric" Werx gloves far outwear cotton and often replace goatskin and leather at 40% to 70% savings. Have excellent sense of "feel," non-slip grip, are 100% machine washable.

Regular Werx for 5 times the wear of 8 oz. cotton. 6 styles for men and women, including air-conditioned Perforated Werx.

Super Werx for heavy duty handling. Outwears 18 oz. cotton 6 to 1, costs much less than expensive leather. 2 styles.

Werx-Lite for greatest dexterity in inspecting, assembling. Yet outwears 8 oz. cotton 3 to 1. 2 styles.

No. 62W GRAB-IT

NATURAL RUBBER COATED, for safest general handling, wet or dry.

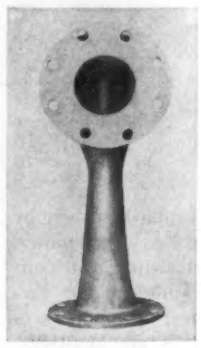
Grab-It for unequalled grip even on slippery glass or multi-wall paper bags. Non-slip rough-finish coating also cushions against shock, protects against cuts, snags, abrasion and heat. 8 *Extra*coated styles.

FREE TEST OFFER TO LISTED FIRMS: We make more than 50 types of *Extra*coated and impregnated gloves, *job-fitted* to outwear and outperform ordinary leather, rubber, plastic and neoprene gloves. Test after test proves 40% to 70% cost savings. Tell us your operation. Without cost, we will send samples of the correct job-fitted glove for on-the-job comparison test. Write Edmont Inc., 1240 Walnut Street, Coshocton, Ohio. In Canada, write Edmont Canada Ltd., Cowansville, Quebec.

Edmont JOB-FITTED GLOVES

▲ For more details circle NED-556 K on enclosed inquiry slip ▲

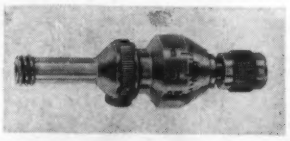
GAS SCRUBBERS have resin-glass fiber construction



Resin bonded glass fiber construction lends exceptional corrosion resistance to SK 4010 Ejector-Venturi scrubbers designed to move large quantities of air and gas at low draft. Scrubbers remove dust and particulate matter as well as obnoxious vapors and corrosive gases in chemical and food processing plants and other process industries. They can be used at up to 300° F and remain corrosion resistant on exterior as well as interior surfaces since the Du Verre resin bonded glass fiber is homogenous. • Schutte & Koerting Co., Cornwells Heights, Bucks County, Pa.

▲ For more details circle NED-557 K on enclosed inquiry slip ▲

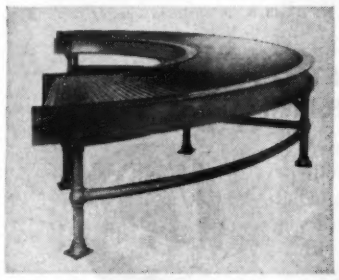
THREAD GAGE checks pitch diameter to 0.0002 in.



Type ATG universal thread gage can measure the pitch diameter of internal threads accurately within 0.0002 in. The extent of the error is directly readable. Gage can also be used as a maximum gage adjustable to various tolerances and as a maximum-minimum gage for stud bolt fits. Compensation for wear is by zero setting with a master ring. • Homestrand Machine Tool Corp., 392 W. Putnam Ave., Greenwich, Conn.

▲ For more details circle NED-558 K on enclosed inquiry slip ▲

CURVED MESH CONVEYOR 180-degree curve unit offered



Formerly available only in 90-degree curve units with a 20-in. effective belt width, Taperweave Curve Conveyors now include this 180-degree curve unit with 36-in. wide belt traveling on a 5 ft 9 in. centerline radius. These conveyors utilize a wire mesh belt woven to a taper corresponding to the inner and outer radii of the curve. Conveying surface lies flat and level. Units can move loads up to 2000 lb at speeds up to 200 fpm. Drive is provided by dual multiplane side chains which carry crossbars that extend through the woven metal mesh belt. Load is supported by full width slider bed or skid rails. Belts in various metals and meshes to meet requirements are available. • Wiretyer Corp., Engineered Handling Systems Div., 65 Leliarts Lane, East Paterson, N. J.

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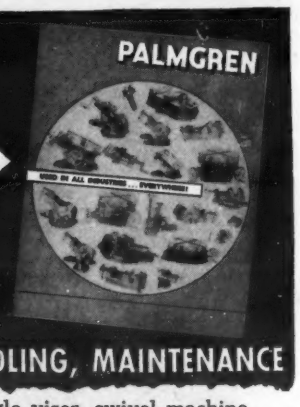
WRITE NOW FOR THIS

FREE CATALOG

ON WORK HOLDING TOOLS FOR PRODUCTION, TOOLING, MAINTENANCE



Drill press vises, angle vises, swivel machine vises, rotary tables, lathe milling attachments, production vises, heavy duty angle vises, and adjustable angle plates are illustrated and fully described in the New Palmgren Catalog. This is the only complete line of work holding devices available anywhere. Designed for production, tooling, and maintenance work, there are 68 different models and types to choose from. Vise jaw sizes are from 1½" to 8". Ask for your copy of this FREE Catalog No. 205 today. The complete line with details and prices are shown.

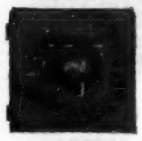
PALMGREN PRODUCTS
by CHICAGO TOOL AND ENGINEERING CO.
8378 SOUTH CHICAGO AVE. • CHICAGO 17, ILL.

▲ For more details circle NED-561 K on enclosed inquiry slip ▲

ENGLER HOUR METER For Efficient Machine Performance

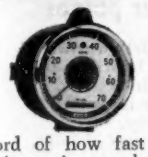
- Insures Planned Maintenance
- Checks Down Time
- Registers Operating Time

Engler Hour Meters provide a true time utilization record of all powered equipment. This time totaling mechanism permits accurate checking of operating time and maintains a complete record of machine performance. Engler Hour Meters guarantee constant maintenance control, rate of pay, rental charges, etc. and are true time instruments, not just revolution counters. Precision engineered and ruggedly built for dependable service. Available for AC or DC use. For use on DC powered rolling stock, line powered stationary equipment, business machines, etc.



PRODUCTOLOG

Electrically records in chart form off and on time of any machine or process. Shows on chart exactly when down time occurred and for how long. Access window enables operator to write in the reason for stoppage.



VDO TACHOGRAPH

This precision instrument records in chart form when and how fast any machine operated or how long it took to complete process.

The VDO Tachograph keeps a running record of how fast your equipment has been operating at any given time and total time.

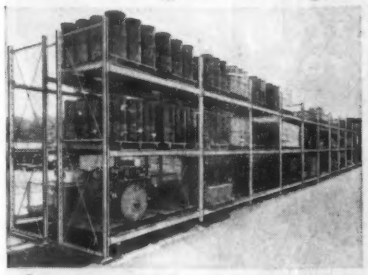
For use on industrial machines and can also be used to record vehicle operation.

Engler Instrument Co.

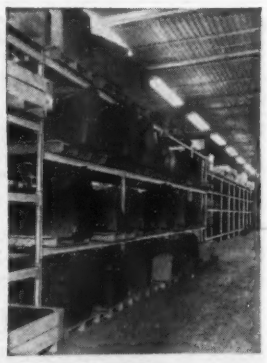
Dept. NE-106, 280 Culver Avenue Jersey City 5, New Jersey

▲ For more details circle NED-562 K on enclosed inquiry slip ▲

from the ground up...to as high as you need to go

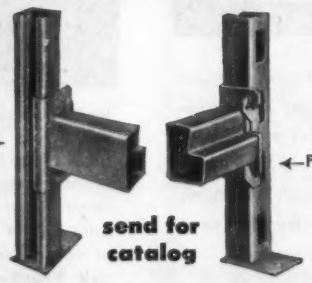


American
Slide-n-Lock adjustable
STORAGE RACKS



give you the most for your storage dollar!

1. **American Stringers are one-piece**—made of durable, continuous welded steel tubing, made from high carbon steel.
2. **American Stringers have step construction** for fast, simple conversion to decking — step is 1⅝" deep — thickness of finished 2" lumber.
3. **American Posts are rugged** — made from extra heavy gage steel — roll formed by special tooling.
4. **American has positive double-wedging lock** — safe-t-pin gives positive security against unhooking stringers.
5. **American has smooth, aisle-side construction** — no protrusions of any kind to tear clothes or create a safety hazard.
6. **American has higher safety factors** — 2.25 to 1 — for greater protection to truck operators and merchandise.



send for catalog

7. **American Racks are easy to erect**—no costly bolting—all parts hook into place.
8. **American Racks are easy to adjust** — all stringers can be moved independently of any other part.
9. **American Upright Frames are cross braced** against sway — turnbuckles provide ready take-up for uneven floors.
10. Fig. A—smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Stringers raise and lower like a window. Fig. B—note rigid connection when stringer is "locked" to post.

AMERICAN METAL PRODUCTS CO.
STORAGE RACK DIVISION
5977 Linsdale Ave. amp® Detroit 4, Michigan

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario

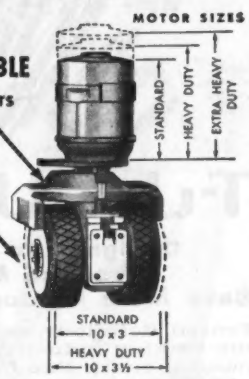
Pictured above are two American Slide-n-Lock Adjustable Storage Rack installations at the Brunswick Corporation Muskegon, Michigan, Plant.

▲ For more details circle NED-560 K on enclosed inquiry slip ▲

HydroLectric

the Modern Truck . . . with the Greatest Flexibility to Application

MAKE A COMPARISON



3 GEAR RATIOS AVAILABLE
without changes in Gear Centers

TWIN DRIVE WHEELS
Less than one half steering effort (compared to wide, single drive wheel).

★ Instantaneously braking with the handle in any position.

★ Maintenance simple and infrequent — designed to make it easy to service brushes, contacts, tires — within minutes.

THE EXCLUSIVE DYNA-DUAL POWER UNIT IS INTERCHANGEABLE ON ALL MODELS

LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

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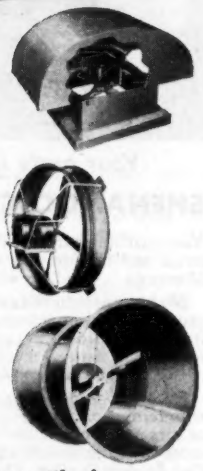
Intake One Minute, Exhaust the Next— with the same fan

HARTZELL'S Unique Reversible Fan



- moves air in either direction with equal efficiency — does the work of two fans
- manual or automatic reversible
- sizes from 18" to 44"
- ring or duct-type mounting or special reversible roof ventilator

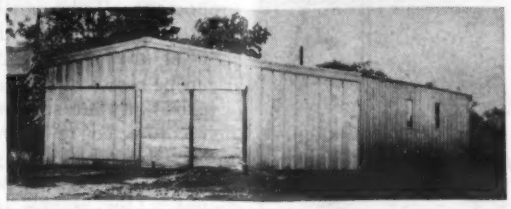
Write for details on these versatile fans or call your nearby Hartzell field office.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
62 Thomas Blvd., Piqua, Ohio A member of AMCA

▲ For more details circle NED-564 K on enclosed inquiry slip ▲

PREFABRICATED STEEL BUILDING adapts to warehouse, plant uses

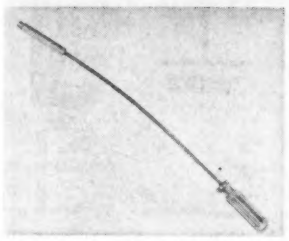
Wide array of styles and sizes are possible in this Spartan prefabricated steel building which adapts to warehouse, office, plant production, or commercial uses. It is de-



signed for fast, easy assembly, with or without a concrete foundation. The formed cold rolled steel building is fireproof and weather-tight, and is available in any length starting at 32 ft in multiples of 16 ft. Widths range to 72 ft in multiples of 12 ft. Basic heights are 10, 12, and 14 ft. Standard roofs are rated for 12-lb snow and 15-lb wind loads, although a heavier model with 30-lb snow and 20-lb wind load is available. • **Martin Sales Co.**, 111 W. Longview Ave., Mansfield, Ohio.

▲ For more details circle NED-566 K on enclosed inquiry slip ▲

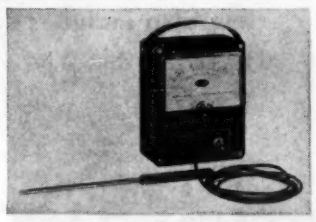
MAGNETIC RETRIEVER lifts parts in inaccessible areas



The ⅜-in. diameter Alnico V magnet of this retriever is mounted on a slender flexible shaft to pick up ferrous tools and parts in difficult-to-reach or inaccessible places. Washers, screws, nuts, and other parts can be handled or removed from machine and intricate assemblies. Its shaft can be flexed around corners and other obstructions. The 18-in. tool has a plastic handle. • **Safety Vacuum Lifter Co.**, 321 Elm St., Trenton 10, N. J.

▲ For more details circle NED-567 K on enclosed inquiry slip ▲

PORTABLE TEMPERATURE INDICATOR in ten ranges from −30 to 350° F



Powered by long-life batteries, this 2-lb Model 583 portable temperature indicator with thermistor sensing probes is available in ten different ranges spanning −30 to 350° F. Probes for air, liquid, and surface temperature sensing are interchangeable. Industrial applications include periodic checks of processes and equipment and surveying plant thermal conditions for air conditioning or safety purposes. Indicators are priced at $59.50 and probes at $35. • **Fenwal Inc.**, Pleasant Street, Ashland, Mass.

▲ For more details circle NED-568 K on enclosed inquiry slip ▲

What makes it RIGHT for you?

The right fastener for YOUR needs is one that is specifically designed, engineered and manufactured to meet your production requirements precisely. Fabricated from the most suitable metal and provided with the right finish, it must combine secure fastening with maximum speed and ease of assembly.

If you're looking for the right fasteners, Stanley-Humason has the engineering experience and ability needed to analyze your requirements and develop the best possible designs to meet them exactly . . . and the complete, modern production facilities needed to produce your fasteners efficiently and make prompt deliveries keyed to your own production schedules.

FOR ADDITIONAL INFORMATION . . . send for data sheets on Flat Spring, Retaining Ring, Hour Glass or Screw Machine Type Fasteners, and Special Application Nuts . . . or simply write, outlining your fastener requirements. Also available are data sheets on assembled products, metal stampings, screw machine parts and wire forms.

STANLEY-HUMASON, INC.
A Subsidiary of The Stanley Works
Dept. J, 58 Stafford Ave.
FORESTVILLE, CONNECTICUT
STANLEY ®
SPRINGS • WIRE FORMS • STAMPINGS • SCREW MACHINE PRODUCTS • ASSEMBLIES

▲ For more details circle NED-565 K on enclosed inquiry slip ▲

LepeL

HIGH FREQUENCY INDUCTION
HEATING EQUIPMENT
for Hardening • Annealing • Soldering
Brazing • Zone Refining • Crystal Growing

ELECTRONIC TUBE GENERATORS:
1 kw; 2½ kw; 5 kw; 10 kw; 20 kw; 30 kw; 50 kw; 75 kw; 100 kw.

SPARK GAP CONVERTERS:
2 kw; 4 kw; 7½ kw; 15 kw; 30 kw.

WRITE FOR THE NEW LEPEL CATALOG 36 illustrated pages of valuable information.

LepeL HIGH FREQUENCY LABORATORIES, INC.
55th ST. & 37th AVE., WOODSIDE 77, N. Y.

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THE GENERAL TIRE

With a wide-base design for every application, General Pneumatics assure low-cost, long-run operation on every job. Generals safety-cushion equipment and loads, protect floors, increase load capacity. What's more their high flotation means easier rolling. Check the entire line for the General Pneumatic to suit your product.

Available separately or in assemblies of tires, tubes and wheels. Size O.D.8" to 35"—200 to 7890 lbs. capacity for low or high speeds.

Send for Catalog, Dept. 4

THE GENERAL TIRE & RUBBER CO.
AKRON, OHIO

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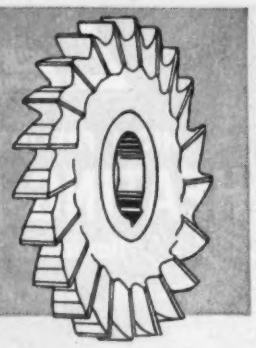
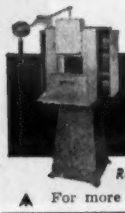
Better Tools From SENTRY Hardening



THE TRUE TEST of your machine tools is their performance on the job — how they benefit your production. This is where Sentry Furnaces with the Diamond Block method of atmosphere control demonstrate their value. Your high speed steel tools hardened in the truly neutral Sentry Diamond Block atmosphere achieve maximum hardness without scale or decarburization, maintain their sharp cutting edges longer, step up production.

Write for literature and send sample of your tools for free demonstration hardening.

505-9



Sentry ELECTRIC FURNACES

Request Catalog S-17 Write THE SENTRY CO., FOXBORO, MASS.

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• Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.

Dowel—Straight—Countersunk—Angle and Spherical Ends .020" to .1875" Diam. .125" to 2" Length

Precise Specifications Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
SEND US PRINTS FOR QUOTATION

COMMERCIAL CENTERLESS GRINDING COMPANY
6605 CEDAR AVE., CLEVELAND 3, OHIO
Phone: ENdicott 1-3412

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MODERN SLUGGER

"CUSHION SNAP" -NO KICK- ELECTRIC HAMMER

-8½lb. lightweight with a heavyweight wallop!

- Drill holes in granite
- Open steel drums
- Use in body shops
- Remove excess weld
- Use all day without fatigue!
- 40 different tools available

Write, wire or phone

MODERN MFG. CO., INC.
678 Davisville Road, Willow Grove, Pa.
Phone: OLdfield 9-4820

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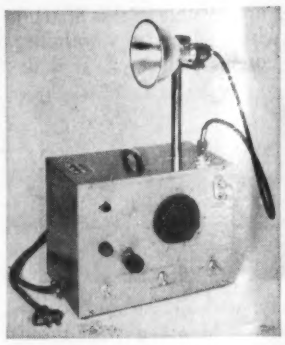
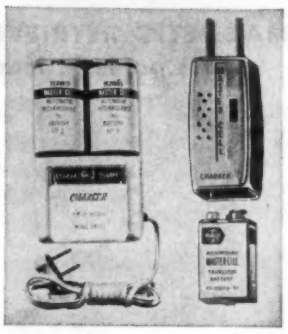
STROBOSCOPE makes 250-2500 flashes per minute



Flash tube and holder are a separated unit of the Model E-30-Z Wabash stroboscope. Tube can be plugged directly into the body of the stroboscope, or can be removed and attached to any lab support, then connected to power supply. Unit has a range of 250 to 2500 flashes per minute. Use of the intensifier switch doubles the usual amount of light. This feature is useful in photography, but is applicable only when tube is being fired at 1000 flashes per minute or under. • W. M. Bachmann Associates, 2512 N. Shore Dr., Clear Lake, Iowa.

▲ For more details circle NED-574 K on enclosed inquiry slip ▲

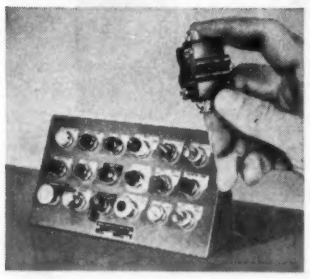
RECHARGEABLE BATTERIES can be recharged 1000 times



Under normal use, the Beamco Master Cell D-Style 2-v rechargeable battery can last a lifetime. It can be recharged 1000 times, and a cutoff switch prevents overcharging. Although it is a wet cell, the 1000-ma battery will not leak if left in radio or similar equipment for a year or longer. A two-cell charger with two indicator lights is also available. Also offered is a 9-v rechargeable transistor battery made in wet and damp cell models. Former is rechargeable up to 1000 times or for up to 15,000 hr of playing time in a standard transistor circuit. • Beamco Associates, Inc., 8 E. Spring Ave., Ardmore, Pa.

▲ For more details circle NED-575 K on enclosed inquiry slip ▲

PUSHBUTTON CONTROLS line also includes selector switches

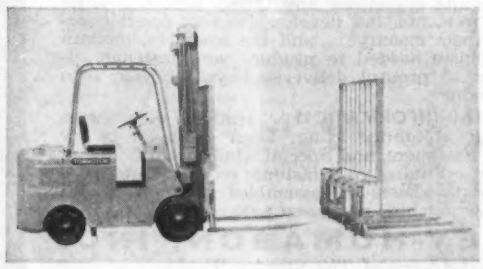


A compact single-circuit contact block with contacts that are readily converted from normally-open to normally-closed is featured in Type R pushbutton controls and selector switches. They can be mounted in any combination. Contact blocks are keyed to insure staggering of terminals when mounted in more than one tier, and up to eight can be combined for use on a single operator. Line includes selection of knob, key, and coin actuated selector switch operators, selector-pushbutton operators, and signal light units. These oil-tight dustproof units conform to JIC and NEMA Standards. • Mackworth Rees, Inc., 1573 E. Forest Ave., Detroit 7, Mich.

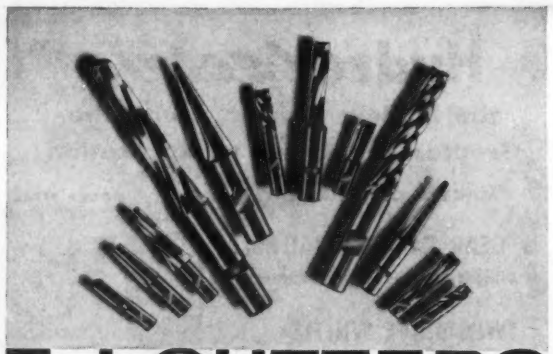
▲ For more details circle NED-576 K on enclosed inquiry slip ▲

CARTON LIFT TRUCK handles cartons without palletizing

Special 82-in. five-fork carriage enables Model 540 lift truck to handle cartons without palletization. It allows bottom row of cartons to act as a pallet by opening the carton lids. The two end forks have a 6-in. offset left to right to fit loads of varying widths. The five forks are attached to an over-size 82 x 76 in. high backrest for handling high loads. Sideshifter attachment allows operator to shift loads laterally. An optional Triple Lift Mast is used for stacking in tiers up to 12 ft high. • Towmotor Corp., 1226 E. 152nd St., Cleveland 10, Ohio.



▲ For more details circle NED-577 K on enclosed inquiry slip ▲



T-J CUTTERS

Designed To Do *More* Jobs... Produce *More* Work... Save *More* Production Time and Cost

Proved, definitely, as the cutting tool for the die-sinking industry, T-J now offers an expanded cutter line for the precision milling of today's high speed, high production manufacturing. The new line has been designed to do more, as well as add to individual cutter life. Cutters feature a high helix angle, double back-off, right or left hand spiral, and flats on the shanks for set screw type chucks. Write today for Catalog No. 259 and complete details to The Tomkins-Johnson Co., 2425 W. Michigan Ave., Jackson, Michigan.

Representation in all major areas, including Canada.

T-J TOMKINS-JOHNSON

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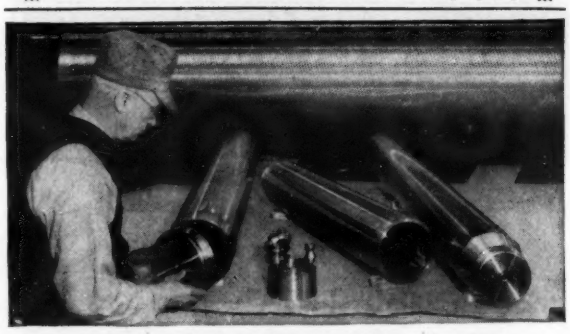


Your parts last longer when they're

SHENANGO CENTRIFUGAL CASTINGS

Your machine parts, ferrous or non-ferrous, are subject to stress, strain and friction, day after day, year after year . . . so specify Shenango . . . and see what a difference this makes!

Shenango's centrifugal casting process insures longer life because of finer, more uniform, *pressure-dense* grain to begin with . . . free of inclusions, porosity, blowholes and other weakening defects. Then, far less machining is needed and your part is stronger . . . to last and last *and last!*

Shenango's modern and fully-equipped shops will supply you with ferrous or non-ferrous symmetrical parts in virtually any shape or size . . . rough, semi-machined or precision-finished to your most exacting specifications. For full details, write: *Centrifugally Cast Products Division*, The Shenango Furnace Company, Dover, O.

SHENANGO CENTRIFUGAL CASTINGS

COPPER, TIN, LEAD, ZINC BRONZES • ALUMINUM AND MANGANESE BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL • ALLOY IRONS

▲ For more details circle NED-579 K on enclosed inquiry slip ▲

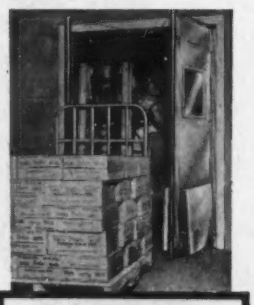
Won't rip, warp or come off the fastenings

The Bumper Takes the Shock — Not the Door

The Shock Absorber Door keeps traffic moving without slow-downs or bottlenecks.

Flexibly suspended, this lightweight door opens and closes freely, either manually or when pushed by a truck. Exclusive Urethane-filled Bumpers absorb shocks that would wreck ordinary doors. Spring Retriever returns door to closed position. Neoprene sealing at all edges assures tight, draft-free closure. Keeps wanted air IN—unwanted air OUT.

Low in cost, the Shock Absorber Door comes in one complete, easy-to-install unit. Needs virtually no maintenance. See our insert in Sweet's Catalog, or write today for full information.



CLARK DOOR COMPANY, INC. since 1878

511 Hunterdon Street
Newark 8, New Jersey

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NEW, LOWER PRICES on ROSSPUNCH Perforating Pins

PLUS | Accuracy ± .0003 Over 120 stock sizes "Jet-Fast" delivery

The standardized ROSSPUNCH is stocked in tool steel *and* high speed tool steel. Let us supply you at one-third the cost of making them yourself—a 60% saving! Your complete satisfaction guaranteed.

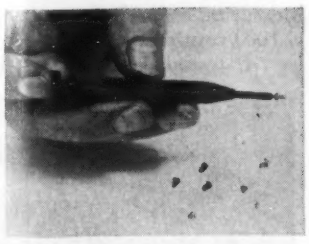
FREE! SAMPLE PUNCH specifications, stock and price lists are yours upon request. Write us today . . . start saving tomorrow.

TWX RO 655

ROSS Equipment co. inc.
71 COLLEGE AVENUE, ROCHESTER 7, N. Y.

▲ For more details circle NED-581 K on enclosed inquiry slip ▲

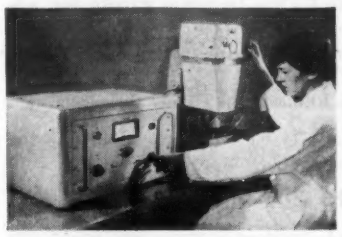
SCREW HOLDING DRIVER speeds installation of small screws



Nonmagnetic mechanism for holding tiny screws is actuated by slight finger pressure on swivel end of improved screw - holding driver (*NED, June* '58). Tool automatically releases and resets when the miniature slotted screws are tightened into place. Interchangeable bits, available in four sizes to fit slots from 0.010 to 0.038 in., are replaceable and resharpenable. • **Hodat**, 3017 Summit St., Oakland 9, Calif.

▲ For more details circle NED-584 K on enclosed inquiry slip ▲

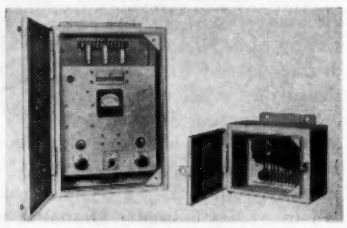
ULTRASONIC GRINDER machines 1⅜-in. diameter area



Precision operations in semiconductor and other electronic device manufacture and such general purpose work as cleaning and soldering are applications for high speed Model 2-333 ultrasonic impact grinder. It can machine an area with up to 1⅜-in. diameter. Grinder employs an air cooled 300-w magnetostrictive transducer for continuous operation. Either the insert type transducer or the coil can be removed without disturbing the other. • **Raytheon Co.**, Commercial Apparatus & Systems Div., 1415 Providence Turnpike, Norwood, Mass.

▲ For more details circle NED-585 K on enclosed inquiry slip ▲

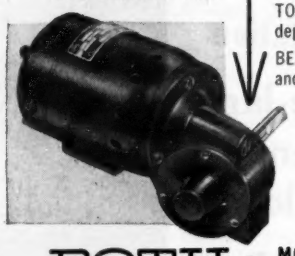
MOTOR LOAD MONITOR detects a 1 per cent load change



By monitoring motor torque, which is directly proportional to power, the Torquetrol ac motor load monitoring device will detect a load change of as little as 1 per cent in a machine. Unit responds to actual power demands instead of current alone, is accurate and sensitive, reacts quickly, and responds to underload and overload. It will protect machine tools against damage due to jamming or misfeed, detect excessive power on power presses, control feed rate on a grinder, or warn of dull or broken tools. Output can be used to stop motor, operate an alarm or signal, or to count work cycles. • **Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.

▲ For more details circle NED-586 K on enclosed inquiry slip ▲

this Howard fractional H. P. gear motor can be used for



RATIOS FROM 10:1 to 60:1

MODEL 2900: 2 Pole—4 Pole Induction with A26 Gear Unit
DIAMETER: 3⅝"
LENGTH: 7 9/64" to 8 11/64"
HORSE POWER: 1/70 to 1/15 depending on length of stacking.
TORQUE OUTPUT: Up to 60 in. lbs. depending on ratio.
BEARINGS: Permanently lubricated and sealed ball bearings.

Check your specifications with Howard. Write for complete details and prices on these and other Howard gear motors and reduction units.

MODEL 29-500: Universal AC/DC or Shunt with A26 Gear Unit
DIAMETER: 3⅝"
LENGTH: 7 13/64" to 7 37/64"
HORSE POWER: 1/70 to ¼ depending on length of stacking.
TORQUE OUTPUT: Up to 60 in. lbs. depending on ratio.
BEARINGS: Permanently lubricated and sealed ball bearings.

BOTH universal and induction applications

POWERED BY HOWARD

HOWARD INDUSTRIES, INC.
1740 State St., Racine, Wisconsin

Divisions: Electric Motor Corp., Cyclohm Motor Corp., Racine Electric Prods., Loyd Scruggs Co.

▲ For more details circle NED-582 K on enclosed inquiry slip ▲

WEAR RESISTANT THOMSON

AVOID the HIGH COST and difficulty of fabricating long, hard & straight parts by conventional methods . . .

60 Case hardened and ground

SHAFTS, ROLLS, GUIDE RODS and other long-round parts ELIMINATE WEAR and REDUCE COST

ADVANTAGES of 60 Case
- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.

Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished *60 Case* parts frequently cost less than the scrap losses that result from conventional methods.

Stocked in ¼" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

TYPICAL 60 Case PARTS
GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

For emergency needs call collect MAnhasset 7-1800

THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C . . . increase life . . . reduce cost!

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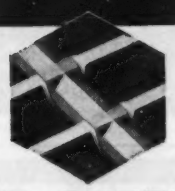
SPECIFY **Gary** WELDED STEEL GRATING



with the hexagonal cross bars

Tested and proved in millions of square feet! Used under all conditions, for open flooring and stair treads, Gary's hexagonal cross bar design and square edge strip assure a more durable, safer, neater grating. Pressure welded construction forms cross bars and main bars into a rugged one-piece grating. Tops of all bars are flush.

Pre-cut to your specifications. Whatever your needs in type and size, factory-fabricated Gary Grating saves you installation time and money. Careful quality control assures dimensional stability, long life and neat appearance.

Gary Grating can also be furnished in a variety of stainless steels and aluminum.

Specify Gary Grating . . . either in steel or aluminum . . . for all your functional and decorative grating and stair tread requirements. Write today for free catalog —Dept. J-10, 4045 E. Seventh Ave., Gary, Indiana.

ROCKWELL-STANDARD CORPORATION
Grating Division, Gary, Indiana

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GRIPPER® woven wire SLINGS

here's SAFETY for any lifting job

No weak links to break . . . no thin strands to snap . . . no soft core to rot . . . nothing to tear suddenly and drop the load. That's the safety story of Gripper Slings. Spiral wire construction also gives the Gripper Sling complete flexibility to hold any sized load in a firm, yet gentle, grip. And, Gripper Sling's smooth, broad bearing surface won't cut or score stock . . . practically eliminates load damage.

Gripper Slings, pretested to meet load specifications are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or Neoprene or PVC covered slings available. Write for FREE CATALOG and name of your nearest materials handling distributor.

The Cambridge Wire Cloth Co.
Department C • Cambridge 10, Md.

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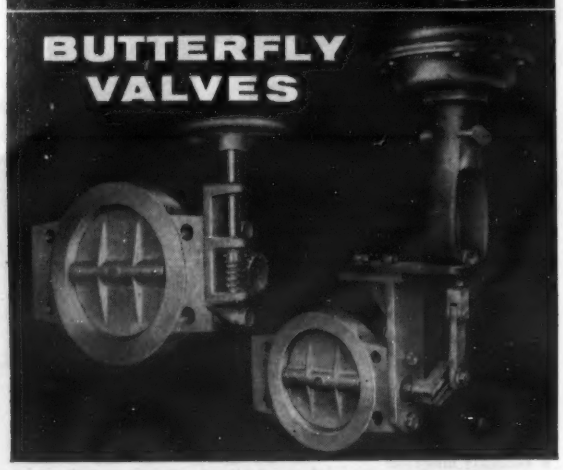
Advanced Design

BUTTERFLY VALVES



NOW . . . an extensive line of Butterfly Valve types and sizes with many features.

- Variety of actuators
- Soft and angle seating
- Variety of body linings
- Adjustable for 60° or 90° operation
- Wide range of sizes in steel or iron

Whatever your needs, specify Masoneilan Butterfly Valves. Call or write for catalog.

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan Street, Norwood, Mass.

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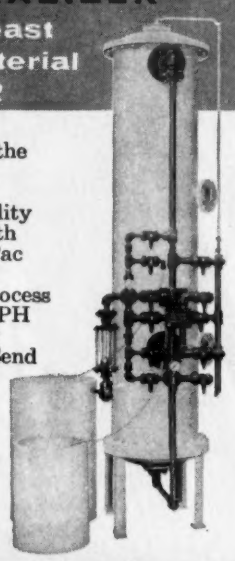
NEW COCHRANE UNI-PAC* PACKAGED DEMINERALIZER

controls your least uniform raw material . . . WATER



Are seasonal changes in the mineral content of your water supply a costly headache? Maintain quality standards year round with this *new* Cochrane Uni-Pac Packaged demineralizer, designed expressly for process systems. Sizes to 3500 GPH factory assembled, easily installed and operated. Send for Publication 5819.

*Trademark

Cochrane CORPORATION
3143 N. 17th Street, Phila. 32, Pa.
In Canada: Cochrane Water Conditioning Ltd. • Toronto
Representatives in 43 principal U.S. and foreign cities.

▲ For more details circle NED-590 K on enclosed inquiry slip ▲

NEW BOOK ON INDUSTRIAL RADIANT HEAT

Do you know the difference between infrared and *far* infrared radiant heating? Why the latter is 90% efficient, practically twice the efficiency of straight infrared?

Do you know that *far* infrared is color blind . . . that it heats or dries a red surface as readily as a white or black?

PE-70 is a new book that answers these and similar questions about industrial radiant heating. It details the theory and practice of heating and drying with radiant energy, tells the many advantages of using glass as an energy source, gives specifications on VYCOR® Tubular Heaters and PYREX® Panel Heaters.

Write for a copy to Plant Equipment Sales Department, 5610 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

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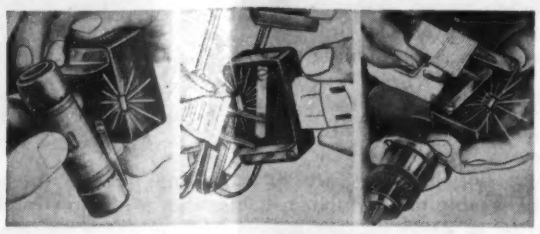
CONTINUITY TESTER
tests bulbs, cords, circuits, tools

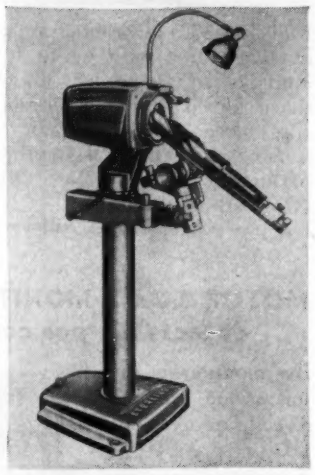
Measuring only 1⅝ x 1 x 1 in., the UL-approved Model 1000 continuity tester plugs into any 120 v ac-dc outlet. It tests light bulbs of all sizes, fuses of all types,



extension cords, fluorescent lamp starters, electric shop tools, soldering tools, motor winding coils, electric fans and heaters, automotive circuits, and switches. Its Bakelite case is filled with insulating compound to separate and encase its electronic parts. Protruding from one side are standard brass plug-in prongs and on top are two test terminals. One terminal pivots for adjustment to objects being tested (see photos). Price is $2. • A. M. Johnson Co., Midwest Regional Office, Box 297, Matteson, Ill.

▲ For more details circle NED-592 K on enclosed inquiry slip ▲

DRILL GRINDER
handles ⅛ to 2½-in. diameters



Free-cutting conical form is ground on 59-degree drills by the Sterling Model DF drill grinder. The ⅛ to 2½-in. drills are held without collet or chuck. Conical form produces the same clearance angle from web to outside diameter, making a fast-cutting drill that enters the work easily. Built-in clearance angle adjustment allows setting of 8, 10, and 12-degree clearance on any size drill. Angles from 0 to 20 degrees may be approximated. Machine handles two, three, and four-lip drills and is powered by a ½ or 1-hp, 3450-rpm motor. A 6 x 1½ x ½-in. straight cut wheel with 4 x 1-in. recess is used. Diamond wheel dresser is standard. • McDonough Mfg. Co., Box 99, Eau Claire, Wis.

▲ For more details circle NED-593 K on enclosed inquiry slip ▲

Vacuum Cleaners & Blowers

Ace-Sycamore, Inc.—Hand-portable electric cleaners, industrial vacuum cleaners, drum conversion units, and accessories are detailed in 4-page Bulletin CB-660. Also briefly described are commutator resurfacers and saws, motor brush seaters, and live lathe centers.

▲ For more details circle NED-594 K on enclosed inquiry slip ▲

NEWS from the NRC Vacuum MICRONICLE*

REDHEAD MAGNETRON GAUGE READS VACUUM TO BELOW 10^{-13} mm Hg

Direct measurement of pressure from 10^{-4} to less than 10^{-13} mm Hg is easy with the new Model 552 Redhead Magnetron Ultra-High Vacuum Gauge and Model 752 UHV Gauge Control.

Cold cathode operation keeps the Model 552 elements from vaporizing and eliminates the need for outgassing circuit. Self-regulated emission simplifies operation and maintains high signal to background ratio on all ranges. High sensitivity of 4.5 amp/mm Hg (air) permits use of standard electrometer amplifier. Response is virtually linear and almost instantaneous.

Partially transistorized Model 752 has only four operating controls: two switches, range selector, and zero set. Connections are provided for 0-10 mv recorder. Short time constant permits observation of pressure fluctuations. Gauge, magnet, and control now in stock at $195, $50, and $850.

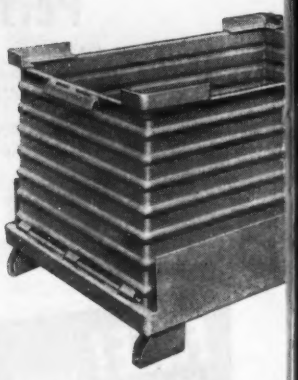
*Send for FREE periodical containing details on above plus other news about high vacuum.

NRC EQUIPMENT CORPORATION
A Subsidiary of National Research Corporation
Dept. ED-5, 160 Charlemont Street, Newton 61, Mass.

▲ For more details circle NED-595 K on enclosed inquiry slip ▲

LOOK TO UN

for boxes pallets skids



UNION METAL
Material Handling Equipment

▲ For more details circle NED-

For fuses with 200,000 ampere interrupting rating

plus, extreme current limitation

plus, time-lag to prevent needless blows

You need . .

Buss LOW-PEAK Fuses

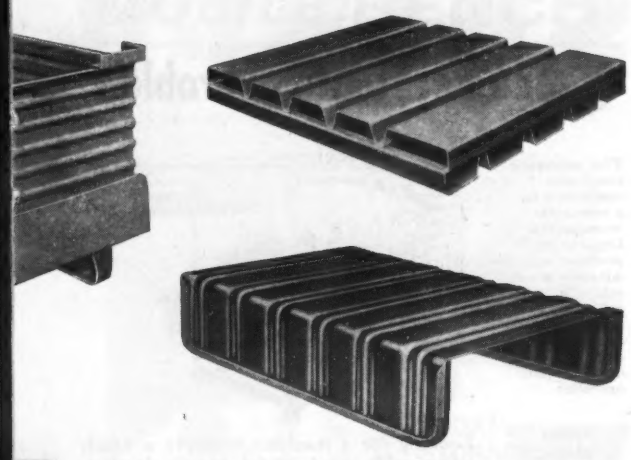
▲ For more details circle NED-

The Authorized S

Spherical, Cylindrical, Ball, and "Timken" *Tapered Roller B*

▲ For more details circle NED-

IION METAL



Detailed information covering advantages, features and complete range of designs is readily available.

THE UNION METAL MANUFACTURING COMPANY
Canton 5, Ohio • Brampton, Ontario

596 K on enclosed inquiry slip ▲

A Revolutionary New Protective Device

Buss LOW-PEAK fuses can completely revolutionize the protection of the entire electrical system.

Protect Circuits, Motors, Controllers, Switches whether fault current is 1,000 amps. 100,000 or 200,000 amps.

Prevent damage to Panelboards, Controllers or other circuit components. Let-thru fault currents are limited to exceptionally low values.

Can be easily coordinated into a selective system — to limit fault outages to circuit of origin.

Prevent waste of time and money — because long time-lag keeps them from opening needlessly on harmless overloads.

Permit increasing interrupting capacity and current limitation on present system at minimum cost. Fuses fit standard switches and panelboards. Available from 15 to 600 amperes in both 250 and 600 volt ranges.

Remain safe throughout the years without maintenance or recalibration.

Write for Buss LOW-PEAK Bulletin LPCS

BUSSMANN MFG. DIVISION,
McGraw-Edison Co.
University at Jefferson, St. Louis 7, Mo.

1060

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SKF *Distributor carries a full line of bearings*

He can give you immediate delivery of almost any bearing—because he carries all types in countless sizes in his local stocks.

And if he should be "out," there's a nearby SKF regional warehouse that is completely stocked to back him up. So, why not consider his full line as your inventory and call him first? 5907

EVERY TYPE—EVERY USE
SKF®
SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

*arings

*REG. U. S. PAT. OFF.

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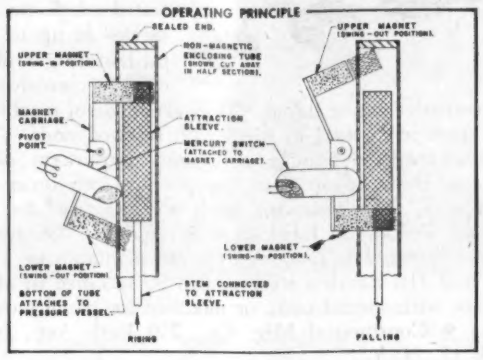
MAGNETIC MERCURY SWITCH for hot, corrosive atmosphere use

Metal parts of the Type 3-6 magnet-actuated mercury switch are aluminum and stainless steel for switch application in corrosive atmospheres. Resistant to ex-

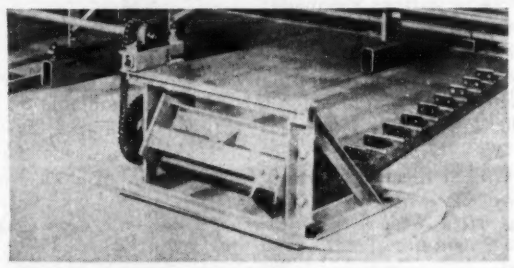


treme vibration, switches can be used on either left-hand side (single-pole action) or the right-hand side (double-pole action). Mechanisms are furnished in splashproof or explosion and vaporproof tall housing. Switches are rated 4 amp at 115 v ac, 2 amp at 230 v ac, and 1 amp at 440 v ac. Maximum temperature for liquid in pressure vessel is 450° F. • **Magnetrol, Inc., 2110 S. Marshall Blvd., Chicago 23, Ill.**

▲ For more details circle **NED-599 K** on enclosed inquiry slip ▲

POWERED PUSH-PULL COLUMN folding type rolls in or out from drum to move heavy loads

This power-operated folding column rolls in or out to form a rigid column capable of pushing or pulling heavy loads linearly with a steady force. Device can

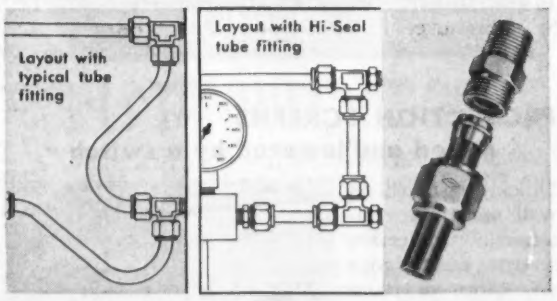


be used to actuate and position equipment, move railroad cars, position nuclear elements, or introduce equipment or materials into a furnace. It is small enough to mount inside trucks to push out heavy pallets.

Column is formed of hinged links of steel channel wound helically around a powered drum which feeds out or withdraws the column. As it unrolls, column is rigid in three directions. Standard unit extends 45 ft, but occupies a floor space about 2 ft square when taken up. Custom units can be built to any size and load capacity. Unit shown opens and closes a heavy section of folding gymnasium seats. • **Wayne Iron Works, 147 N. Pembroke Ave., Wayne, Pa.**

▲ For more details circle **NED-600 K** on enclosed inquiry slip ▲

SAVE time and money in tubing circuits



Imperial Hi-Seal butt-joint tube fittings save space, tubing; eliminate many bends

The sections of tubing layout shown above indicate how Imperial Hi-Seal fittings make possible more compact circuits, save as much as 66⅔% in installation time. Hi-Seal fittings make a positive butt joint — withstand high pressures. The tubing need not be sprung. And assembly is fast and foolproof. You can *see* when a Hi-Seal joint is tight — no danger of over-torqueing. Hi-Seal fittings stay pressure tight beyond the burst strength of the tube itself. Available in steel, stainless, aluminum and brass for ⅛" to 1½" O.D. tubing.

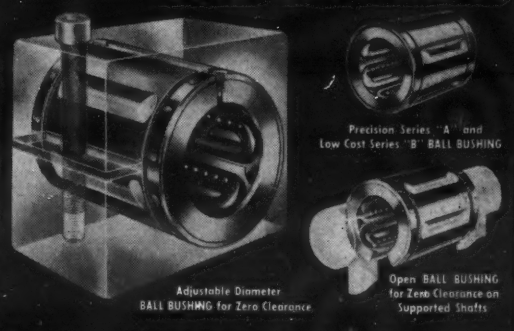
Write for Catalog 3108, or call your Imperial industrial distributor.

IMPERIAL
THE IMPERIAL BRASS MFG. CO.
6300 West Howard Street NED-100
Chicago 48, Illinois 19-60

▲ For more details circle **NED-601 K** on enclosed inquiry slip ▲

NOW! *Adjustable Diameter and Open*

THOMSON **BALL BUSHINGS**



The BALL Bearing for *all* your **LINEAR MOTIONS**

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

The various types cover a shaft diameter range of ⅛" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.

THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings
Sleeve Bearings of DuPont NYLON

▲ For more details circle **NED-602 K** on enclosed inquiry slip ▲

NEWEST THIEF TRAP: SILENT SOUND!

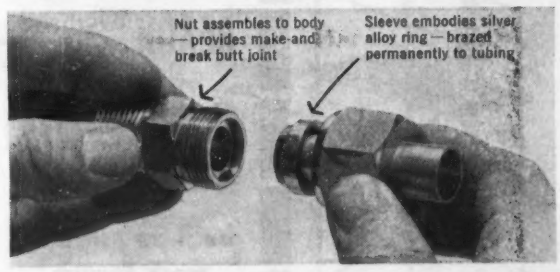
Now—trap thieves the modern way—the foolproof way—with a Kidde Ultrasonic Burglar Alarm System! Using high-frequency, undetectable sound waves, the Kidde system gives complete wall-to-wall, floor-to-ceiling protection. Can't be by-passed, sabotaged. Sounds alarms locally and/or at central station. It's easy to install and maintain, qualifies for U. L. Number Two certification. For more information, write Kidde today.

Kidde

Kidde Ultrasonic & Detection Alarms, Inc., 1024 Brighton Road, Clifton, N. J.
A Subsidiary of Walter Kidde & Company, Inc., Belleville 9, N. J.

▲ For more details circle **NED-603 K** on enclosed inquiry slip ▲

WITHSTANDS superpressures, high temperatures



Imperial Braze-Seal tube fitting retains make-and-break convenience

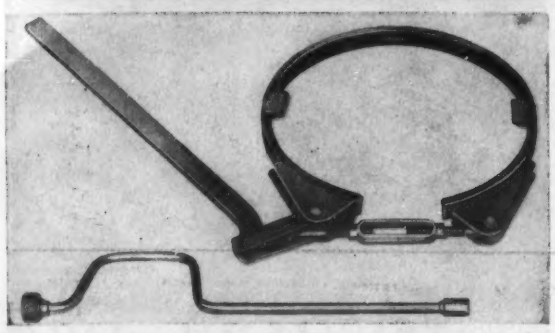
Imperial's Braze-Seal fitting withstands superpressures — up to 64,000 psi, depending on size (⅜" to 1½" O.D.) — yet it allows the convenience and economy of a make-and-break butt joint.

The secret is in the sleeve (right), which contains a silver alloy brazing ring and is permanently brazed to the tubing. Braze-Seal fittings are available in steel or stainless. Reducing sleeves available to reduce any size tube end to any specified size. Write for Catalog 3120, or call your industrial supply house.

IMPERIAL
THE IMPERIAL BRASS MFG. CO.
6300 West Howard Street, Dept. NED-100
Chicago 48, Illinois

▲ For more details circle **NED-604 K** on enclosed inquiry slip ▲

DRUM PARTS CLOSING TOOL
Speeds Open Head Drum Closures



A simple, quick-acting closing tool, so efficient, so easy-to-use it will speed closure of all types of open head drums—especially the outstanding locking rings developed by Drum Parts, Inc. These include:

PLAIN LUG RINGS • OVERLAPPING RINGS
WELD NUT RINGS

Complete Catalog illustrates and gives full details for closing tools, rings and accessories to fit all drum closing needs. Send for your copy today.

DRUM PARTS, INC.
10311 Meech Ave. Cleveland 5, Ohio

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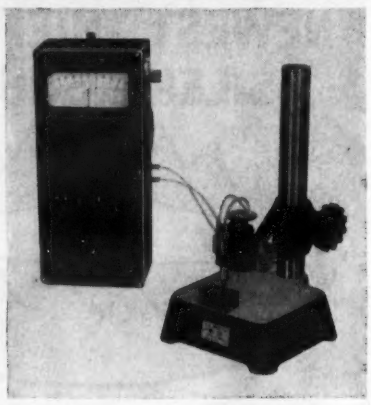


MODEL AG5 ACCU-FLOW AIR GAUGE
A general-purpose non-contact gauge for use as measurer or comparator on a variety of critical applications.

A new standard of accuracy . . .

ACCU-FLOW* by AMES

B. C. Ames has perfected a new concept of air gauging that offers extremely fine measurement and unusual stability.

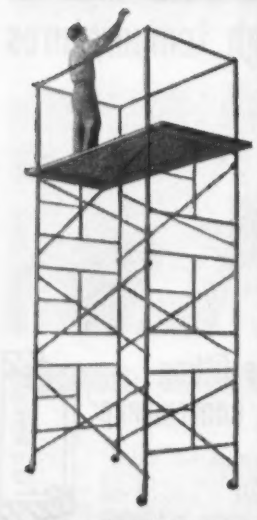
AMES ACCU-FLOW air gauges give you an accurate non-contact measuring method that is ideally suited to checking size variations on continuous production items such as wire, rubber, plastics, etc. Send for free ACCU-FLOW folder.

*Trademark of B. C. Ames Co.

Representatives in Principal Cities

B.C. AMES CO.
34 Ames Street, Waltham 54, Mass.
Canadian Representative—H. C. Burton Co. Ltd., Hamilton
MANUFACTURERS OF MICROMETER DIAL INDICATORS AND GAUGES

▲ For more details circle NED-607 K on enclosed inquiry slip ▲



ROLL to the job anywhere
REACH overhead work
. . . with
SAFWAY
built-up scaffold work towers

Interchangeable parts assemble to any height and platform area

- build up towers to fit every job.
- work platforms at any levels.
- swiveling casters lock at the job.
- parts reassemble in many forms.

WRITE FOR FREE BULLETIN 810N

SAFWAY

SAFWAY STEEL PRODUCTS, INC., 6228 W. STATE ST., MILWAUKEE 13, WIS.

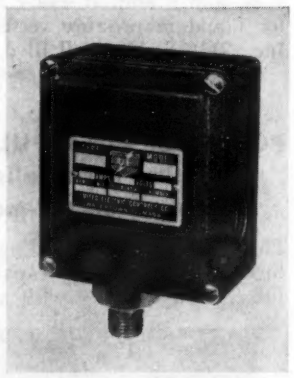
▲ For more details circle NED-608 K on enclosed inquiry slip ▲

INSTRUMENT PLUG VALVES
¼ to 1-in. sizes have 300-psi rating

Tufline instrument plug valves with Teflon sleeves are suited for on-off service at up to 300 psi handling −50 to 400° F corrosive or noncorrosive gas or liquid. They are made of machined bar stock in ¼ to 1-in. sizes with screwed ends. The inverted tapered plug and bottom diaphragm cover seal are designed so that line pressure reinforces the plug seal. As all moving parts are supported by low friction Teflon, no lubrication is required. Operating torque required is low. Valves are available in Type 303 and 316 stainless steel, or can be specified in other metals, with special ends, or modified for panel mounting. • **Continental Mfg. Co.**, 230 Park Ave., New York 17, N. Y.

▲ For more details circle NED-609 K on enclosed inquiry slip ▲

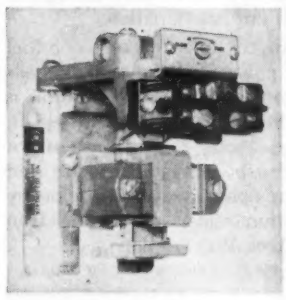
PRESSURE CONTROL
designed for sprinkler systems



Control of electric motor and alarm circuits in sprinkler systems is function of the Type J7X-5355 pressure control. The compact FM-approved and UL-listed device may be used with alarm check, dry pipe, and special water control valves to actuate an electric alarm when the valves operate. Pressure settings are made externally over a 0 to 20-psi range. Switch actions are normally-open, normally-closed, or double-throw. Switches are single pole and suited for ambients up to 180° F. Standard electrical rating is 15 amp, 120/240 v ac. Unit has a die cast aluminum enclosure. • **United Electric Controls Co.**, 79A School St., Watertown 72, Mass.

▲ For more details circle NED-610 K on enclosed inquiry slip ▲

PNEUMATIC TIMING RELAY
adjusts over 0.2 to 60-sec range



One-minute pneumatic timing relay for use on machine tool and sequence controls maintains reliability even in the dustiest environments. Self-cleaning filter system protects timing assembly from all airborne foreign matter. Exhaust air is forced back through intake filters to blow them free of dust collected during intake. Relay can be adjusted accurately over a range of 0.2 to 60 sec and is easily converted from "on delay" to "off delay." Unit switch is suitable for pilot and control circuit duty to 600 v. Silicon rubber diaphragm assembly operates in −45 to 150° F range. • **Cutler-Hammer**, 574 N. 12th St., Milwaukee 1, Wis.

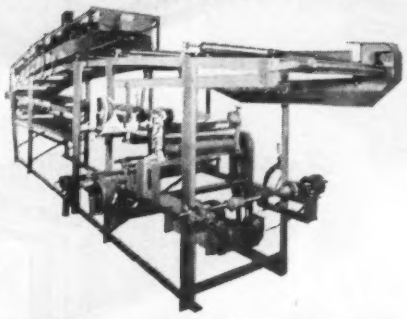
▲ For more details circle NED-611 K on enclosed inquiry slip ▲

PROJECTION SCREENS
raised and lowered by a switch

Quickly installed on wall or ceiling, Autolectric projection screens can make any office or room into a screening room. Screens can be hung behind a cornice or recessed above a ceiling and are raised or lowered with a center-return removable toggle switch. Removing the toggle prevents unauthorized use. A built-in stop mechanism prevents overtravel in either direction. The screen may be stopped at any point for showing of motion pictures, film strips, or slides. The glass beaded screens are made in 50 x 50, 60 x 60, and 70 x 70-in. sizes, priced at $139.50, $159.50, and $179.50. • **Radiant Mfg. Corp.**, Box 5640, Chicago 80, Ill.

▲ For more details circle NED-612 K on enclosed inquiry slip ▲

POTDEVIN SOLVES
another coating problem:



This automatic coater was engineered for a prominent manufacturer of labels to apply pressure sensitive adhesive to one side of a roll of cloth, dry the adhesive and rewind the cloth . . . all in one automatic operation.

Solving Coating Problems Since 1893

Looking for a machine to apply a tough adhesive to wood, metal, plastic, leather, glass? Let us know what you need. We'll be happy to submit our recommendation. Write for FREE literature.

POTDEVIN MACHINE CO.
273 North Street, Teterboro, New Jersey

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

▲ For more details circle NED-613 K on enclosed inquiry slip ▲

NO WASTE...NO DOWN TIME
in Continuous Roll Stock Processing!

Instantaneously splices on second roll WITHOUT STOPPING PROCESS

Model TO-24
Turret-Type **UNWIND STAND**
Unique dual-roll "Flying Splice" instantly attaches new roll to moving web without stopping.

Model TO-24R
Turret-Type **REWIND STAND**
Dual roll Turret instantly attaches moving web to new core for continuous operation.

NO NEED to stop high-speed, complex web processing to make roll changes. Precision-built Stanford units accomplish these operations in a fraction of a second without interrupting production.

Fully Automatic, Semi-Automatic, or Manual action.
With or without Constant Tension Brake.
With or without Web Guide.

Ideal for Paper • Plastic Films • Foils and all other Web Materials

Write, wire, or phone WAYNE STANFORD today!

Stanford ENGINEERING COMPANY
SALEM, ILLINOIS • PHONE SALEM 553
Mfrs. of Slitters, Web Guides, Rewinding and Constant Tension Equipment

▲ For more details circle NED-614 K on enclosed inquiry slip ▲

Wipco Wire Partitions
FIT ANY AREA

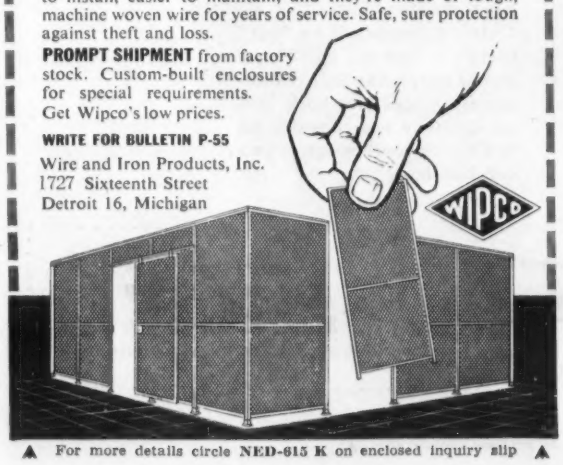
MOVEABLE—REUSABLE—FLEXIBLE! Standard sections in a variety of sizes for stock rooms, tool rooms, runways, etc. Each section a complete unit ready for erection. No special tools . . . no special crews. Your men install Wipco partitions quickly and easily. Future changes? Just disassemble and re-locate!

COST LESS THAN WOOD FRAMING AND WIRE NETTING Cheaper to install, easier to maintain, and they're made of tough, machine woven wire for years of service. Safe, sure protection against theft and loss.

PROMPT SHIPMENT from factory stock. Custom-built enclosures for special requirements. Get Wipco's low prices.

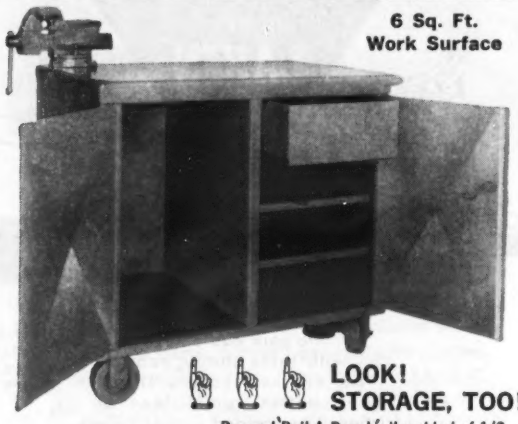
WRITE FOR BULLETIN P-55

Wire and Iron Products, Inc.
1727 Sixteenth Street
Detroit 16, Michigan



▲ For more details circle NED-615 K on enclosed inquiry slip ▲

SAVES STEPS
TIME & TOOLS
MOBILE BENCH



6 Sq. Ft. Work Surface

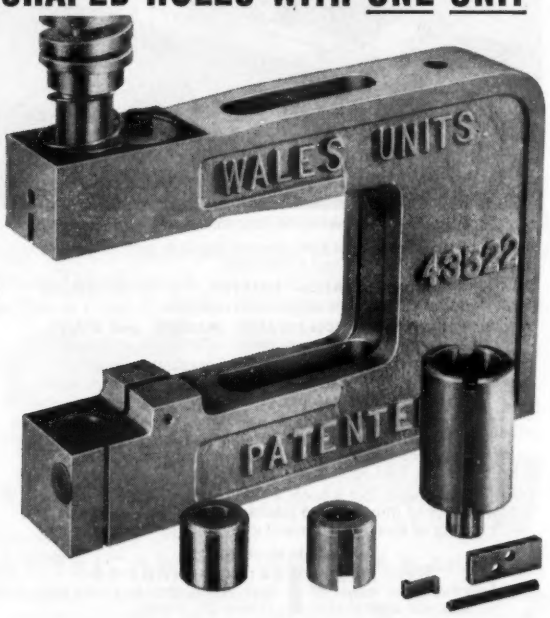
LOOK! STORAGE, TOO!

Rugged Roll-A-Bench all-welded of 1/8 and 3/16 in. plate. Supports 2000 lbs. Easily moved by one man. Doors lock to protect tools!
Shipping Weight: 335 lbs. $185.00 fob Cleveland

the Overbeke-Kain company
20979 AURORA RD. / BEDFORD, OHIO

For more details circle NED-616 K on enclosed inquiry slip

NOW! PUNCH BOTH ROUND AND SHAPED HOLES WITH ONE UNIT



New STRIPPIT "CJ" combines the best features of all other punching units, yet it costs no more than ordinary round-hole units.

Here's greater versatility than ever before in a self-contained hole punching unit. STRIPPIT "CJ" holders and die bases are keyed to take shaped parts. And you pay no more for the "CJ" unit than any competitive round hole unit.

If your current metalworking requirements call for round holes in anything up to ¼" mild steel, the STRIPPIT "CJ" fills the bill. But let's say you get a future job that requires obround, square or rectangular holes. Simply substitute the proper shaped punches, punch guides and die buttons. They're always in stock. You save the cost of a complete new unit or the inconvenience of returning your existing unit to the factory for keying.

Of course you get the same quality which has made STRIPPIT famous for 35 years. Holders are metallurgically correct for their punching range. And a far superior one piece shoulder head punch is standard in both the round and shaped series.

Write now for full information and prices on the new time-saving, money-saving STRIPPIT "CJ".

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

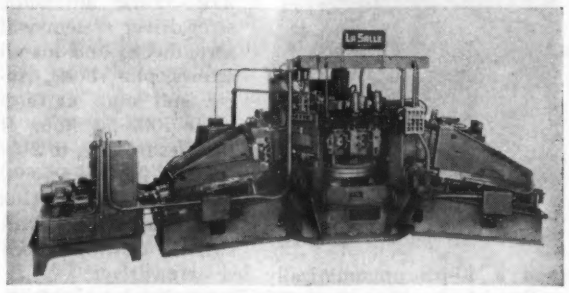
A UNIT OF HOUDAILLE INDUSTRIES, INC.

In Canada: Strippit Tool & Machine Company, Brampton, Ontario

For more details circle NED-617 K on enclosed inquiry slip

MULTIOPERATION MACHINE TOOL
single or multistation type built up of standardized "building blocks"

Drilling, boring, reaming, tapping, and related operations can be performed on this production machine tool, built as a single or multiple station machine.

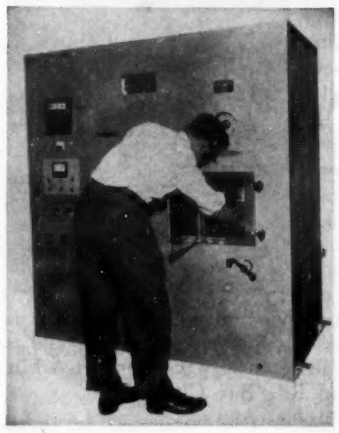


Eight standardized basic components or "building blocks" can be incorporated: Main base, wing base, wing base adapter (dial type), way type feed unit, quill type feed unit, horizontal angular adapter, angular column, and vertical column. Design affords flexibility and minimizes costs in expediting changes in product design.

Illustrated five-station dial type machine for automatically processing steering knuckles handles 232 parts per hour at 100 per cent efficiency, or 186 parts per hour at 80 per cent efficiency. • LaSalle Machine Tool, Inc., 21535 Hoover Rd., Warren, Mich.

For more details circle NED-618 K on enclosed inquiry slip

VACUUM FURNACE
maximum temperature is 2200° F



Installation of the Model VAC-52 console cold wall vacuum furnace consists of connections to water and power, making it virtually portable. Maximum operating temperature is 2200° F with vacuums in the 10^{-4} mm Hg range. The maximum heat is developed in a few minutes and cooling is effected almost as rapidly. The 10-in. diameter by 20-in. deep stainless steel vacuum chamber affords a useful work area of 8 x 14 in. Access door and control equipment are on the front panel. A crank-operated pedestal transfers work from the lower vacuum cooling chamber to the heating chamber containing 30-kva heating elements. Interchangeable heating elements and radiation shields permit use in vacuum brazing and production heat treating. • C. I. Hayes, Inc., 836 Wellington Ave., Cranston, R. I.

For more details circle NED-619 K on enclosed inquiry slip

Solid Platinum Anode Performance at 1/10th the Cost

PLATANIUM® ANODES

PLATANIUM ANODES, made from titanium mesh coated with a uniform thickness of platinum by the PLATANEX* Plating Process, are equal functionally to solid platinum anodes yet cost less than 1/10th as much.

Thanks to a unique diamond configuration design, PLATANIUM ANODES give maximum anode area while cutting down over-all size 50% or more.

PLATANIUM ANODES are recommended for a wide range of electrolytic operations—from electroplating to refining or chemical processing—wherever insoluble anodes are indicated.

We're in full production and can offer immediate shipment of PLATANIUM ANODES in practically any size or quantity required.

Our technical bulletin PLT-1 gives details and price information.

*Trademark, patent applied for.

Sel-Rex® **SEL-REX CORPORATION**
NUTLEY 10, NEW JERSEY

The world's largest selling precious metal electroplating processes

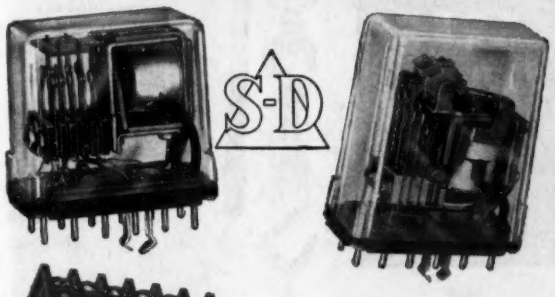
For more details circle NED-620 K on enclosed inquiry slip

Count 2,000 2 oz. pieces in less than one minute with a DETECTO COUNTING SCALE

Find out how Detecto can streamline your plant operation. Write to . . .
DETECTO SCALES, INC.
Dept. D-8, 540 Park Ave., Brooklyn 5, N.Y.

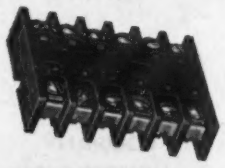
For more details circle NED-621 K on enclosed inquiry slip

A complete relay line for
SIMPLIFIED INDUSTRIAL CONTROL



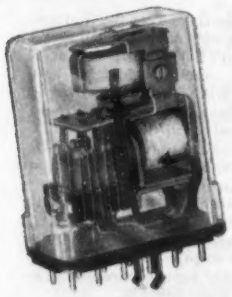
Single Coil SEQUENCE

NEW! — Dunco Frame 211 relays provide thousands of control sequences.



GENERAL PURPOSE Control

Dunco 219 Frame relays are available in three stock contact arrangements.



2-Coil "MEMORY"

NEW! — mechanical latch, electrical reset Frame 255 relays.

Smaller, moderately priced and requiring less operating power, Dunco 219 Frame relays have revolutionized many industrial control panels previously "over relayed" with larger, more costly contactor type units than actually needed.

Now, in matching types, Dunco offers Frame 255 mechanical latch, electrical reset and Frame 211 sequence relays.

All feature 12-pin plugs with heavy-duty industrial sockets. Contacts are conservatively rated at 10 amperes. Standard 150 volt electrical spacings are used throughout. All three types are designed for maximum control panel simplification and in minimum size for dependable service over millions of operations.

Write for Data Bulletins on any type to Struthers-Dunn, Inc., Pitman, N. J.

Member, National Association of Relay Manufacturers

STRUTHERS-DUNN
Pitman, New Jersey

WORLD'S LARGEST ASSORTMENT OF RELAY TYPES

Sales Engineering offices in: Atlanta • Boston • Buffalo • Charlotte Chicago • Cincinnati • Cleveland • Dallas • Dayton • Denver • Detroit High Point • Kansas City • Los Angeles • Montreal • New York Orlando • Pittsburgh • St. Louis • San Carlos • Seattle • Toronto

For more details circle NED-622 K on enclosed inquiry slip

If you want a simple, compact, infinitely variable speed drive for...

agitators
boring mills
centrifuges
conveyors
cut-off machines
experimental equipment
fatigue testing machines
feed screws
gear pumps
index mechanisms
knitting machinery
laboratory equipment
lathes
metering pumps
mixers
packaging machines
paper machines
pill extruders
plastic machinery
rotating drums
spectrometers
spring making machines
textile process machines
timing switches
transfer machines
vibration testers
washers
welding machines
winding devices
wire drawing machines
yarn rolls

or any one of hundreds of other devices requiring variable speed control

WRITE FOR BULLETIN K-200 FOR FULL INFORMATION ON THE NEW CLEVELAND SPEED VARIATOR

It's quiet, efficient, economical. No belts or complicated linkage. Instant speed change by manual, automatic or remote control.

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

For more details circle NED-623 K on enclosed inquiry slip

IMITATED BUT NEVER EQUALED

MODEL 3000-30
With Cable Return Crank
1½ TON CAP.
30 FT. AIRCRAFT CABLE
Weight 14 lbs.
Price $56.20

The LUG-ALL WINCH HOIST

Lifts—lowers pulls—stretches moves—tightens straightens & bends at any angle!

Overstrength aluminum alloy frame. Preformed high-strength flexible aircraft cable. Many other outstanding features.

Priced From $29.50

ESPECIALLY CORROSION-PROOFED MODELS FOR USE IN CHEMICAL PLANTS, MINES, ETC.

Send For FREE CATALOG Showing 16 MODELS 29 CAPACITIES 750 TO 4000 LBS.

THE LUG-ALL® COMPANY
HAVERFORD 3, PA.

LUG-ALL HOISTS HAVE BEEN USE-TESTED SINCE 1949

For more details circle NED-624 K on enclosed inquiry slip

NAYLOR...
The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

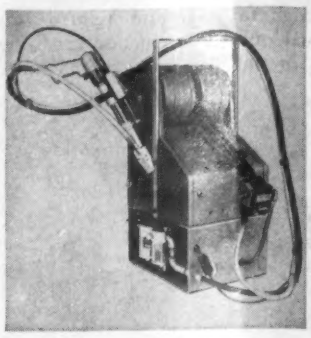
For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.

Write for Bulletin No. 59 for data on pipe, fittings and connections.

NAYLOR PIPE Company
1247 E. 92nd St., Chicago 19, Illinois
Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

For more details circle NED-625 K on enclosed inquiry slip

FASTENER DRIVER will install 7000 screws, pins, bolts, rivets, and studs per hour

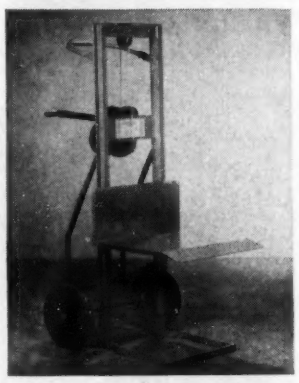


Suited for either manual or automatic production-line use, the Tru - Tork automatic screwdriver system will sort, meter, and install screws, pins, bolts, rivets, and studs at rates up to 7000 per hour. It handles from 1/8 to 2¼-in. long No. 14 screws. Standard unit consists of compact hopper with switch - controlled feed and a 40-psi pneumatically fed screwdriver.

Special clamping tip and light weight of tool enable operator to install fasteners with one hand, often without predrilling. Each fastener is driven to predetermined torque. Up to 12 screwdrivers can be operated from one hopper and operators can work on a 50-ft radius from hopper with normal shop air supply. Hopper may be monorail-mounted to follow workers. • Clyde Engineering & Mfg. Corp., 937 E. Ten Mile Rd., Madison Heights, Mich.

For more details circle NED-626 K on enclosed inquiry slip

HAND LIFT TRUCK platform raised by hand winch



Maximum capacity of the Navigator Model CC-300 winch-type hand lift truck is 1000 lb, or over three times the rated capacity. It has 10-in. semipneumatic wheels with roller bearings. The 18 x 18-in. shovel nose platform is raised and lowered by a hand - operated winch, equipped with a brake that automatically holds the load when the handle is released. Lowered height is 1 in. from the floor and maximum height is 44 in. The 80-lb truck tilts for load movement and is stationary for lifting. Price is $114.95. • Port-A-Lift Co., 3680 E. Schumann Rd., Bay City, Mich.

For more details circle NED-627 K on enclosed inquiry slip

Swivel & Rigid Casters

Payson-Harris & Reed, Inc.—Condensed specifications on casters, including specialty models, are provided in 12-page Catalog 12-A. Light, medium, and heavy duty swivel and rigid types are covered by the specs. Specialty units include office chair, stem, floor lock, and V-grooved wheel models.

For more details circle NED-628 K on enclosed inquiry slip

Cyclo-Core®
Multi-Carbide-Tipped Rotary
MASONRY BITS
DRILL MORE HOLES IN LESS TIME THROUGH REINFORCED CONCRETE

Cyclo-Core drills *three times faster* than any other core bit — through hardest concrete, with reinforcing rods — out-performs any other core bit made, in speed, on-the-job time between sharpenings, and overall cutting life. Better because they're engineered *better*. Advanced free-cutting design, with individual dust-removing spiral for each cutting tip, means continuous, no-stall drilling.

Stock Sizes ¼" to 6" diameters — Larger diameters up to 14" available on request.

CYCLO-CORE STARTING CENTERS
Assure precise locating of holes by eliminating "walking" when starting to drill.
Your Industrial Distributor has them, or write direct for information.

Send for FREE copy of "DRILLING REINFORCED CONCRETE" Brochure

NEW ENGLAND CARBIDE TOOL CO., INC.
55V Commercial Street Medford 55, Mass.

For more details circle NED-629 K on enclosed inquiry slip

CONVEYOR ROLLS
LAWN MOWER ROLLS
PULLEY ROLLS
BY LAKIN

Put extra quality into your equipment with these sturdy, rubber and cord rollers. They have better co-efficient of friction than molded rubber rollers or steel rollers. Lakin engineers have a wealth of experience in the installation of these rollers to many unusual applications. Write or phone for further information.

Pat. Nos. 2,416,123 2,416,124 2,690,752

A. LAKIN & SONS, INC.
2044 N. Dominick St., Chicago 14, Ill. • GRaceland 7-2444

For more details circle NED-630 K on enclosed inquiry slip

TALK-A-PHONE
INTERCOMMUNICATION
The Accepted Symbol of Quality and Dependability

Only the New TALK-A-PHONE has these exclusive features!

- DYNASONIC SELECTOR. Select station performance, intermix or change as needed.
- MULTI-MAGIC STATION SELECTOR. Up to 50-station capacity in same attractive cabinet.
- "PRIVATE" or "NON-PRIVATE" MASTERS and STAFFS. Converse in privacy, answer calls from a distance.
- NOISE-FREE, VOICE-RANGE POWER. Rugged, All-Transistor, high-gain amplifier provides exceptional clarity and naturalness of tone.

PLUS . . . Incoming Call Chime; Busy Signal; Monitoring Signal; External Relay Control; Reciprocal Power Supply . . . all as standard features of the New TALK-A-PHONE

Proportioned like a book, only 3-inches high. The look and feel of fine-grained leather, with the strength and rigidity of steel. In charcoal gray and brushed chrome.

A.I.A. File Number 31-i-51

Write for free brochure and name of nearest distributor
TALK-A-PHONE CO.
Dept. NE-10, 5013 N. Kedzie Ave., Chicago 25, Illinois

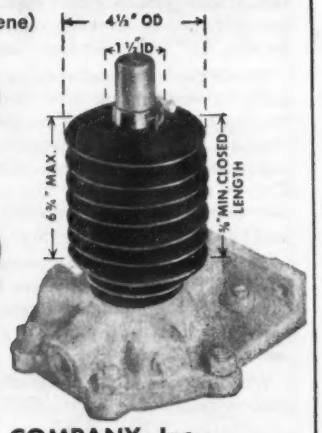
For more details circle NED-631 K on enclosed inquiry slip

PROTECTED

GORTITE (new neoprene)

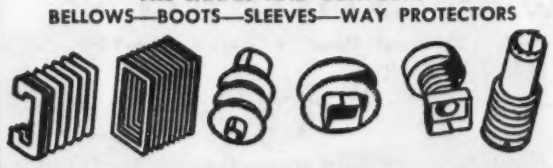
SLEEVES

BOOTS

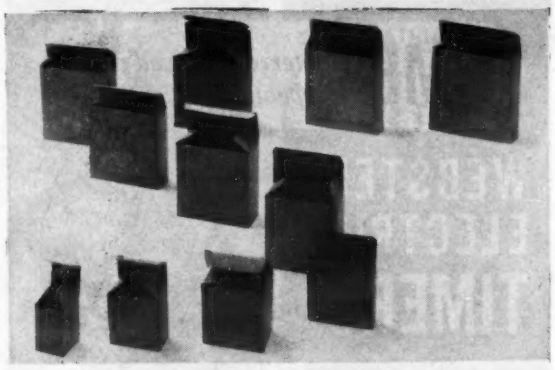


Ask for new bulletin AH-3, describing applications for hydraulic cylinders, jacks, rams, etc.

A&A MFG. COMPANY, Inc.
712 S. 12th Street, Milwaukee 4, Wis.
ALL SHAPES AND CONTOURS
BELLOWS—BOOTS—SLEEVES—WAY PROTECTORS



For more details circle NED-632 K on enclosed inquiry slip



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from ⅞" x ⅞" x 1" up to 5¾" x 5¼" x 7".

Ask for free samples, with sizes and price list.

Spark* makes the difference

STONE CONTAINER Corporation
Campbell Division
4200 West 42nd Place, Chicago 32, Illinois

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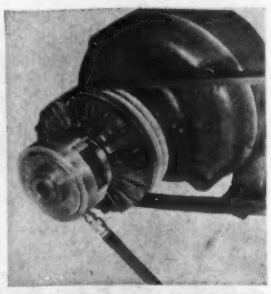
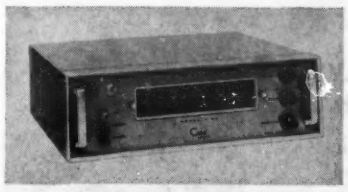
AIR CLUTCH for applications up to 5 hp



Shockless starts without overheating are possible with the Model LW air clutch. Designed for applications up to 5 hp at 1800 rpm and weighing only 15 lb, the self-adjusting unit has antifriction bearings. Actually a combination motor sheave and clutch, it requires no rotary joint. Clutch uses the 3V-belts for compact drive arrangement. • **Horton Mfg. Co.**, 1179 15th Ave. S.E., Minneapolis 14, Minn.

▲ For more details circle NED-636 K on enclosed inquiry slip ▲

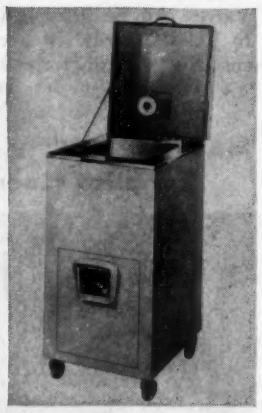
DIGITAL VOLTMETER covers 1 mv to 1099.9 v dc range



High reliability in production-line testing, quality control, and shipping and receiving inspection is afforded by the V-45 transistorized digital voltmeter. Designed for severe industrial requirements, voltmeter covers an extended range from 1 mv to 1099.9 v dc. Sensitivity is 1 mv, and control is continuous from 1 to 10,000 digits, with standby lockout. Unit is 19 in. wide by 5¼ in. high and 15½ in. deep, with brackets available for rack or bench mounting. Switch and bridge section are dustproofed. • **Cubic Corp.**, 5575 Kearny Villa Rd., San Diego 11, Calif.

▲ For more details circle NED-637 K on enclosed inquiry slip ▲

ENVIRONMENT TEST CABINETS in ranges from −22 to 160° F



Thermostatically controlled Hi-Lo Tempmobile environment test chambers are mounted on heavy-duty casters for rolling to the job. Three sizes have interior capacities from 10 to 50 gal and temperature ranges from −22 to 160° F. The 18-8 stainless steel interiors are insulated with 3 in. of cork and glass fiber. Formica breakers isolate the interior so there is no frost "carry-through." Cabinets can be used for cooling water for low temperature viscosity tests, for chill baths, to circulate tempered liquids through condensers, cooling or heating reflux columns, and to circulate constant temperature liquids. • **Hudson Bay Co.**, 3070-82 W. Grand Ave., Chicago 22, Ill.

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Dust

TRAP THIS DANGEROUS ENEMY with

Hammond

DUSKOLECTORS

Dust is a serious problem in most industrial plants. With Hammond DUSKOLECTORS you trap this dangerous enemy at its source before it can harm the health and efficiency of your employees and damage valuable machinery. Your cleaning and painting costs will also be reduced. Hammond DUSKOLECTORS offer you the best and most economical solution to your dust problems. Write today for catalog with helpful engineering information and interesting installation views.

"A MUST FOR DUST!"

Hammond Machinery Builders INC.
1623 DOUGLAS AVE. • KALAMAZOO, MICHIGAN

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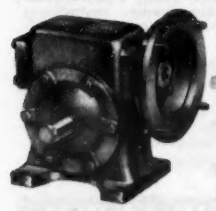
956 different motorized speed reducers

available from stock

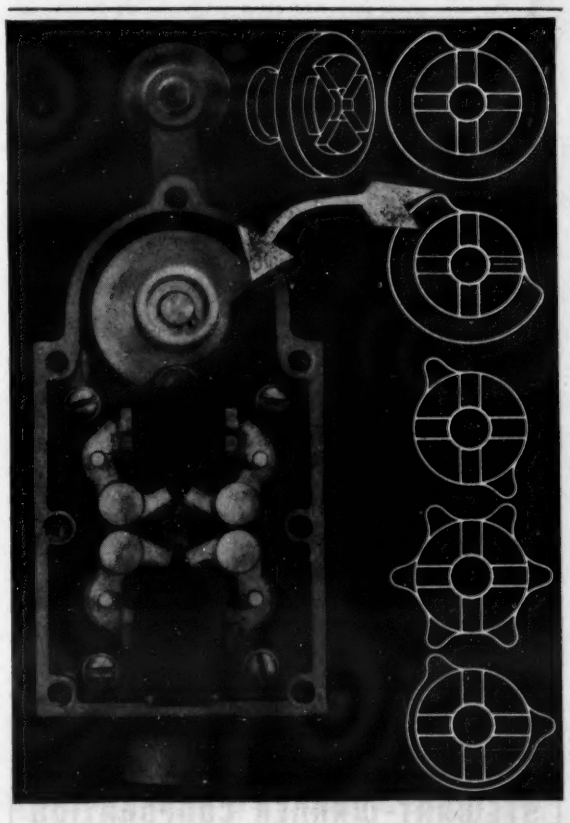
Yes! 956 different combinations of Perfection Motorized Worm Gear Speed Reducers are available for immediate delivery, *from stock*. Ratios range from 5 to 1 to 60 to 1, in capacities from ⅙ H.P. to 5 H.P. Perfection "C" Flange Reducers may be ordered complete with motor or without motor, to be used with a motor *of your own choice*. Write for free copy of our new 28 page catalog No. M-140.



Licensed under Pat. 2,868,031

AMERICAN STOCK GEAR DIVISION
PERFECTION GEAR COMPANY HARVEY, ILLINOIS

▲ For more details circle NED-634 K on enclosed inquiry slip ▲



the new SL-2...a standard limit switch with unlimited operating flexibility

Tailor limit switch performance to your specific job with NAMCO'S *standard* SL-2. This "machine life" limit switch features a standard cam blank which can be cut into a wide variety of configurations to meet any application. These interchangeable cams provide positive control of contact sequence; let you match switch operation to your specific job.

Now available for low-current, high-shock, excessive-vibration applications . . . the SLS-2 . . . with full-wiping, self-cleaning sliding contacts that insure "everytime" operation under conditions that spell machine downtime for other limit switches.

Get *all* the details on the NAMCO SL-2 line. Write for Bulletin EC-SL260, or contact one of our representatives. You'll find them in all principal cities.

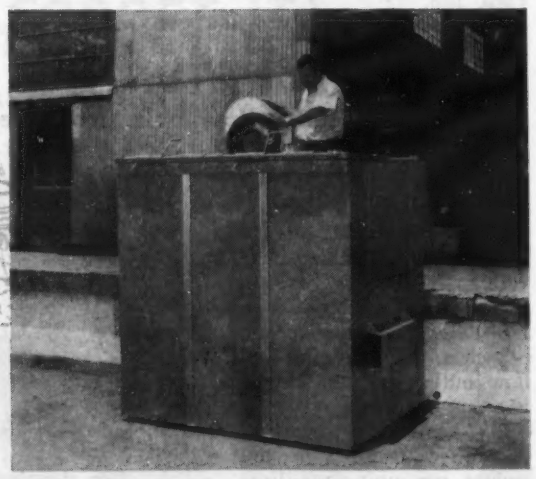
National Acme

THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.

▲ For more details circle NED-640 K on enclosed inquiry slip ▲

NOW! You Can End Refuse Storage Problems... WITHOUT Capital Outlay



DUMPMASTER-Equipped Private Haulers Provide Containers and Efficient Service

If you're plagued with trash piles, scattered refuse, fire hazards, and hit-or-miss collection, there's a good chance you can do something about it . . . WITHOUT CAPITAL OUTLAY!

In most major cities DEMPSTER-DUMPMASTER-equipped private haulers will put clean, big-capacity storage containers at convenient locations in your plant . . . empty them mechanically on schedule, or on a call-in basis . . . all for a reasonable monthly fee.

When you containerize your refuse, plant housekeeping becomes easy, employee morale goes up.

Write today for the name of your nearest private hauler. We'll also send literature describing his service.

Write Today for Free Brochure and Name of Nearest Private Hauler

DEMPSTER BROTHERS Inc.
Dept. NE10, KNOXVILLE 17, TENNESSEE

▲ For more details circle NED-635 K on enclosed inquiry slip ▲

Less down-time
more *GO-TIME* with
Hobbs INDUSTRIAL HOUR METERS

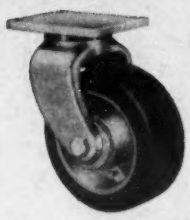
- Plan maintenance on operating hours — for superior performance and maximum utilization.
- Set up a factual basis for rental and leased equipment . . . for buying and selling.
- Time ALL your equipment: d-c hour meter for engine or battery-powered units . . . a-c hour meter for line-powered equipment.
- Be sure with a Hobbs true electric timing instrument — no revolution counter can do the job!

▶ Distributors in Principal Cities
WRITE FOR CATALOG 600

Symbol of SW Excellence
John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2055 YALE BLVD., SPRINGFIELD, ILLINOIS

▲ For more details circle NED-641 K on enclosed inquiry slip ▲

This caster
• beats corrosion
• routs contamination



Here's a caster you can steam clean without (a) corrosion or (b) loss of lubricants.

It's one of Bassick's "BS" series, swivel, or "BT" series, rigid, casters. They're corrosion resistant, effect important maintenance savings under corrosive conditions—in chemical plants, food processing plants, laundries, or wherever casters are exposed to the elements.

And, they're specially designed to avoid contamination to environment: No nooks, crannies, cracks, or recesses to hold dirt. Completely sealed bearings.

Bassick "BS" and "BT" casters come with 5" and 6" wheels with a variety of 2" soft treads. Load capacities to 410 lbs. per caster. Write for complete data. THE BASSICK COMPANY, Bridgeport 5, Conn. *In Canada:* Belleville, Ont.

"BS" series, swivel-type, similar "BT" is non-swiveling.

0.30

Symbol of SW Excellence
Bassick
A DIVISION OF
STEWART-WARNER CORPORATION

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PAYS FOR ITSELF . . .
CONTROLLED HUMIDITY

WITH LOW-COST
WATER OR STEAM

Bahnson UNIT HUMIDIFIERS

Guaranteed Units Insure Quality, Reduce Storage and Production Problems

Full line includes 14 units in various sizes, capacities for your needs, any size area. Units have low first cost, low operating cost, automatic controls. Easy to install from ceilings or on walls.

TYPE E

FREE ILLUSTRATED CATALOG

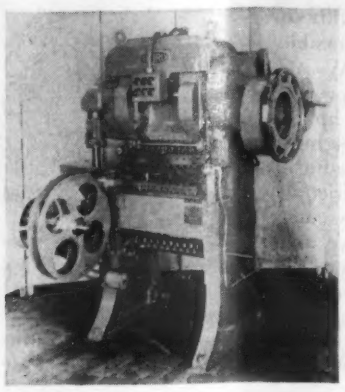
Clip Coupon to Letterhead and Mail Today! Catalog details complete line of 14 humidifiers for your needs, any size area.

NAME _____

THE BAHNSON COMPANY
N-8 WINSTON-SALEM, N. C., U. S. A.

▲ For more details circle NED-643 K on enclosed inquiry slip ▲

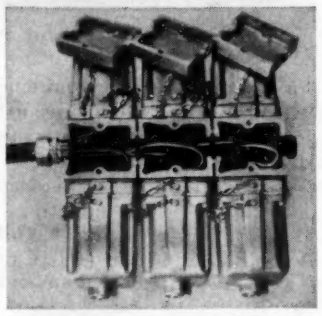
ELECTRIC CLUTCH BRAKE
stops press in one-half revolution



High speed Model 2-19 and 3-25 transfer presses for making stamped and drawn parts from roll stock can be stopped in one-half revolution by this electric clutch brake. It can be incorporated into electronic gaging and inspection of parts during production runs and will prevent damage to tooling and parts. One operator can run several presses equipped with the optional device. • **Baird Machine Co.**, 1700 Stratford Ave., Stratford, Conn.

▲ For more details circle NED-644 K on enclosed inquiry slip ▲

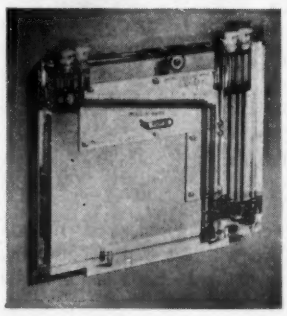
SOLENOID VALVES
up to 5 units mount on manifold



Hy-Cyclic ⅜-in. solenoid valves for hydraulic and air service are direct-action type for manifold mounting in banks of up to five units. Valves mount on 2⅝-in. centers and are available as double or single solenoid, spring return types in 2, 3, or 4-way, 2 or 3-position arrangements. Seven spool types meet all requirements. When multiple-mounted, an inner valve can be removed from manifold without disturbing wiring of adjacent units. Valves can be furnished with standard equipment, or to JIC standards. • **Beckett-Harcum Co.**, 985 W. Locust St., Wilmington, Ohio.

▲ For more details circle NED-645 K on enclosed inquiry slip ▲

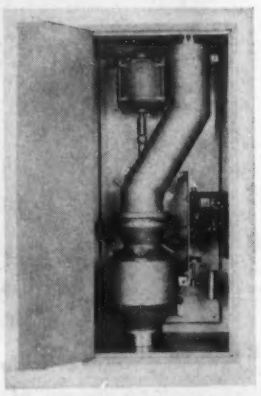
MANOMETERS
for pitot tubes, flow measurement



Line of inclined-vertical manometers is available in single and double column styles, stationary or portable, for use with pitot tubes and in flow measurement. Ranges up to 23 in. of water are accurate within ±1 per cent. Instruments are made from solid, clear acrylic plastic and have fixed scales of polished chromium for parallax-free readings. Rapid shutoff type molded nylon gage connectors are standard, and other styles are optional. Portable instruments have magnetic mounting clips and flat surface leveling mounts. • **F. W. Dwyer Mfg. Co.**, Dept. ND-5, Box 373, Michigan City, Ind.

▲ For more details circle NED-646 K on enclosed inquiry slip ▲

DRY MATERIAL METER
automates dry-flow bulk processes

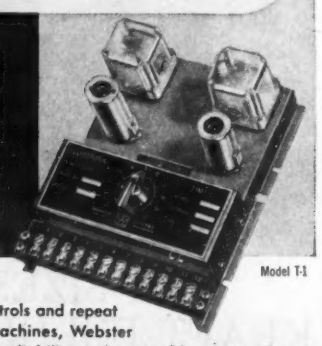


Weighing and metering a wide range of dry-flowing materials without interrupting flow is possible with the IPI Dry-Flow Meter. Providing continuous, instantaneous, or recallable stream-flow data, it is a low-cost approach to automation of dry-flow bulk processes. Meter is accurate within ±1 per cent. Optional instruments give direct readings in unit weight per unit time from local or remote stations; make permanent recordings of flow; and totalize readings for any time period desired. Meter measures 46 in. high, 22 in. wide, and 16 in. deep. Various sizes are available. The two most popular sizes cost less than $1000 each, less instrumentation. • **Industrial Processes, Inc.**, 621 S. W. Morrison St., Portland 5, Oreg.

▲ For more details circle NED-647 K on enclosed inquiry slip ▲

TIME ... *interval, delayed action, repeat, 2-sequence*

WEBSTER ELECTRIC TIMERS



Model T-1

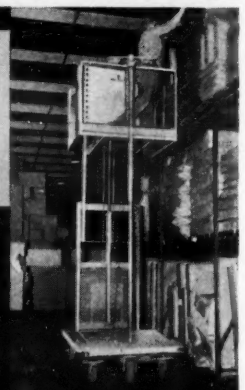
Designed for life tests of products, proportioning controls and repeat timing of processes and machines, Webster timers provide exceptional reliability and unusual low cost. They operate with minimum current consumption and maximum tube life. No warm-up time is required — cold cathode-type tubes respond immediately upon demand. Features include built-in regulation; remote operation; plug-in timing relays; sealed Mylar condensers. Single and double relay models. Three styles: open panel mounting; with NEMA 1-A semi dust-tight enclosures; with NEMA XII oil and water-tight enclosures.

Bulletin EC1-1 gives data, specifications and wiring diagrams. Write today!

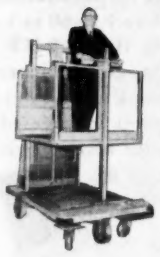
COMPONENTS DIVISION
WEBSTER ELECTRIC
RACINE · WIS

▲ For more details circle NED-648 K on enclosed inquiry slip ▲

Add new *"TRAVL-N-LIFT"* Technique to your PRODUCT HANDLING with



Weld-Bilt "RIDER-BOY"
Self-Propelled
MODEL RB120
PLATFORM LIFT TRUCK



Ride with your load, up, down, forward or backward on new "RIDER-BOY"! Push-button controlled, it lifts rider and load up to 10 foot height. Saves labor, costly power equipment — speeds order-picking, restocking, stacking, storage, work positioning and overhead maintenance.

"RIDER-BOY" is heavy duty battery-powered. Electro-Hydraulic mechanism does all the work, through Trans-Axle Transmission and fluid-type clutch. Built for strength, smooth, effortless operation, complete safety and performance economy.

Write for complete details and prices on new "RIDER-BOY"

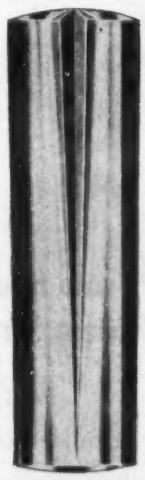
Materials Handling Engineers

"Weld-Bilt" PRODUCTS

WEST BEND EQUIPMENT CORPORATION
311 WATER STREET • WEST BEND, WISCONSIN

▲ For more details circle NED-649 K on enclosed inquiry slip ▲

***need* DRIV-LOK *grooved pins in* SPECIAL MATERIALS?**



- aluminum
- alloy steel-heat treated
- brass
- stainless-303 and 416
- bronze

DRIV-LOK Pins — the positive locking, solid steel body grooved fasteners — are also available in a variety of special materials to meet particular requirements of strength, corrosion resistance, electrical qualities, or combinations of these properties. Like all DRIV-LOK Pins, they are carefully made to exacting standards, are easy to install and will reduce your fastening and assembly costs.

Write us, describing your fastening requirements. Recommendations made and catalog sent without obligation.

DRIV-LOK SALES CORPORATION
717 Park Avenue • Sycamore, Illinois

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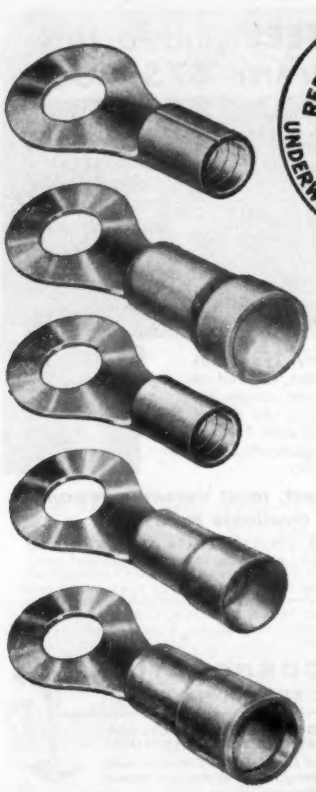


LISTED UNDER REEXAMINATION SERVICE UL UNDERWRITERS' LABORATORIES, INC.

KRIMPTITE*
INSULKRIMP*
VERSAKRIMP*
VIBRAKRIMP*
AVIKRIMP*
*Trade Mark

ETC

ETC INCORPORATED
990 E. 67 St., Cleveland 3, Ohio

▲ For more details circle NED-651 K on enclosed inquiry slip ▲

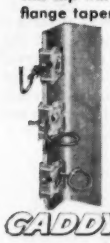
NEW GAT B-Beam Clip

Recently announced by Erico Products, Inc. is the new "B" beam clip. Designed for and approved for telephone use to replace present universal Clamps and/or Support Brackets. This product has found additional markets in the electrical contracting field, sound and intercommunication industries.

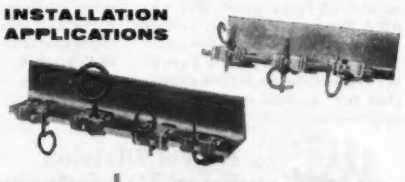
For use with threaded or unthreaded Bridle Rings, Drive Rings and other low voltage Cable, Wire and Copper Thermostatic Tubing Supports.

Recommended Maximum Load Limits:
Horizontal Pull 30 lbs. Vertical Pull 50 lbs.

This clip will fit any flange from ⅛" thru ½" thickness regardless of flange taper.



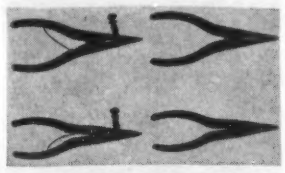
INSTALLATION APPLICATIONS



GADDY FASTENER Div. ERICO CADWELD PRODUCTS, INC. 2070 EAST 61st PLACE • CLEVELAND 3, OHIO

▲ For more details circle NED-652 K on enclosed inquiry slip ▲

RETAINING RING PLIERS
install external and internal rings



Line of pliers for applying and removing internal and external retaining rings is made of black-finished carbon spring steel with hardened tips. Standard pliers for external or internal rings have an adjustable stop and a music-wire spring to save time on repetitive operations. Thumbscrew adjusts plier opening to ring size. Lower-priced Economy pliers, without adjustable stop and spring, are recommended for nonrepetitive operation. All pliers accommodate several ring sizes and are available with straight or angle tips. • **Industrial Retaining Ring Co.**, Dept. P-NED, 57 Cordier St., Irvington 11, N. J.

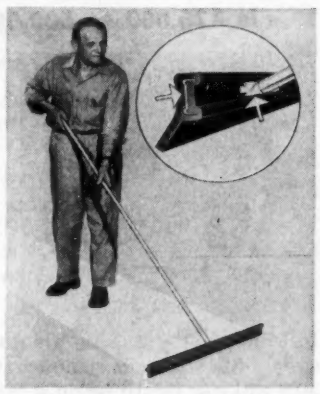
▲ For more details circle NED-654 K on enclosed inquiry slip ▲

MAGNETIC REED SWITCH
sealed unit usable in any position

Electromagnetic relays, position indicators, counting instruments, limit and liquid level switches, flow meters, and commutating instruments are among the applications for the DRG-1 magnetic reed switch. It operates in any position and is hermetically sealed for safe use under any atmospheric or explosive conditions. Switch is rated at 15 v maximum, resistive up to 1 amp, on up to 250 v. Normally-open, normally-closed with a bias magnet and latching arrangements are available. Tube measures 0.200 in. OD and 3¼ in. long. With flats removed, length is only 2 7/16 in. • **Hamlin, Inc.**, Lake & Grove Streets, Lake Mills, Wis.

▲ For more details circle NED-655 K on enclosed inquiry slip ▲

FLOOR SQUEEGEE
in 18, 24, and 30-in. blade sizes



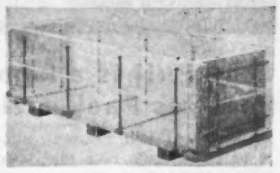
Resilient rubber from which this heavy-duty floor squeegee is molded has high rebound elasticity that resists deformation and flattening out. Rubber attaches to anodized aluminum handle with plated spring steel brackets. Unit resists rust or corrosion by oil, sludge, or industrial solvents and is non-sparking and non-conductive. Replacement blades attach quickly without tools. Blade sizes of 18, 24, and 30 in. are available. • **Reuter Mfg. Co.**, 8901 Hubbell Ave., Detroit 28, Mich.

▲ For more details circle NED-656 K on enclosed inquiry slip ▲

modern WOOD TANKS
(ROUND OR RECTANGULAR)
for Handling and Storage of Chemical Solutions

NON-CORROSIVE
- Low Initial Cost
- Low Maintenance Cost
- Easy Erection

Wood has stood the test of time. It has no superior for many industrial uses because it is highly resistant to decay, to acid and chemical solutions, and in addition, has high insulating properties. These factors make wood the ideal material for tank building.



PLASTIC LININGS IN WOOD TANKS
Allow use of much stronger Chemical solutions than possible before. The new Polycel Tank offers big advantages over high priced alloys.

Write for Bulletin 59 or see our literature in Chemical Engineering Catalog.

WENDNAGEL & CO., INC.
614 W. Cermak Road Chicago 16, Illinois

▲ For more details circle NED-657 K on enclosed inquiry slip ▲

ALL-NEW ALEMITE 7138 V. P. PUMP
for newest multi-purpose lubricants!

Completely new—and only Alemite has it! The compact, portable 7138 V. P. Pump is especially built to accommodate today's modern lubricants . . . gives both high volume and high pressure lubrication. Just a turn of the handy V. P. Selector sets pump for the type of lubrication you want. Delivers one cubic inch per stroke into gear cases—5,000 P.S.I. for bearings.

Lightweight . . . manually operated . . . built for heavy-duty service. Strong handle and toggle link . . . dust-proof aluminum cover . . . convenient carrying handle. Fits any 35-pound container.

The Model 7138 is endorsed by major oil companies for use with multi-purpose lubricants. Its dual service is ideal for meeting the requirements of many industries—including construction, mining, lumber, steel, textile, rubber, petroleum, and chemical.

Write today for full information.

Symbol of SW Excellence
ALEMITE DIVISION STEWART-WARNER CORPORATION
Dept. AI-100, 1850 Diversey Parkway, Chicago 14, Illinois

▲ For more details circle NED-658 K on enclosed inquiry slip ▲

SET IT...FORGET IT!

It's the LAPP Auto-Pneumatic Microflo PULSAFEEDER

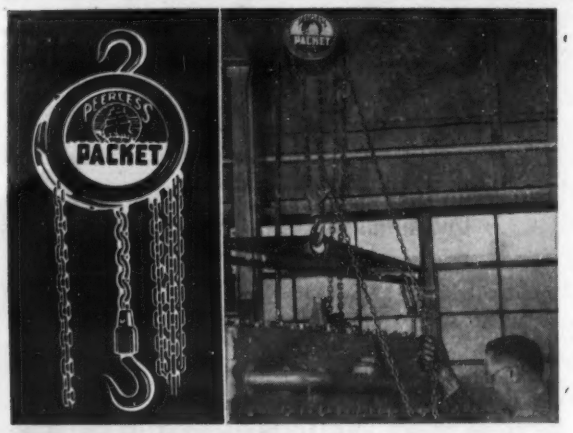
Must the fluids used in your process be metered in relation to changing conditions? Then the Lapp Auto-Pneumatic Microflo Pulsafeeder will provide flexible liquid metering you require . . . and do it *automatically*.

Control instruments sense any change in the process condition. They record it and send an air signal describing the change. Our Auto-Pneumatic Microflo Pulsafeeder interprets the signal and automatically corrects its pumping rate. Truly, you can set it . . . and forget it!

FREE—Catalog 59 has more information. *Write* Lapp Insulator Co., Inc., Process Equipment Division, 1810 Poplar Street, LeRoy, N. Y.

Lapp PULSAFEEDER METERING PUMPS

▲ For more details circle NED-653 K on enclosed inquiry slip ▲



Easy Pull is a laborsaving feature of Peerless Packet Hand Chain Hoists

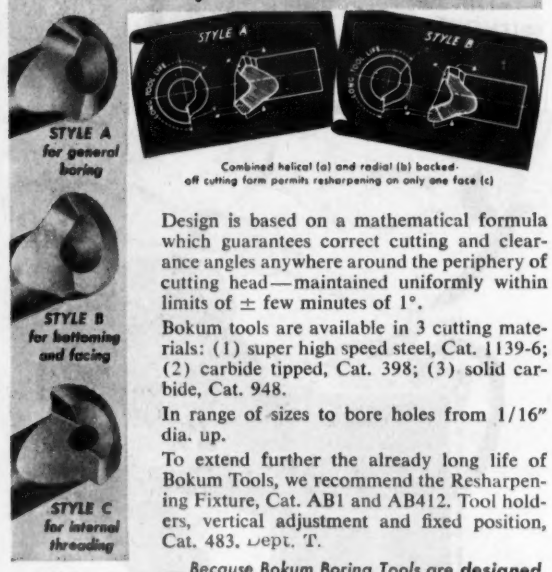
Prelubricated ball bearings, simplified gearing, and easy-to-grip hand chain links take the strain out of lifting with a Peerless Packet Hand Chain Hoist. A pull of only 42 lb. lifts the maximum load with the ½-ton model, 56 lb. with the 1-ton model, and 60 lb. with the 2 ton. Drop forged heat-treated steel hooks and heat-treated steel chain, strong and flexible, hold the load. Of enclosed design, it withstands rough handling, keeps out dirt, reduces maintenance. For complete information, send for Catalog R.

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

Hand Chain Hoists (¼ to 60 tons) • Electric Hoists (170 to 4000 lb.) • Trolley Hoists (¾ to 12 tons) • Lever Pullers (¼ to 1½ tons) • I-Beam Trolleys (¼ to 20 tons)

▲ For more details circle NED-659 K on enclosed inquiry slip ▲

BOKUM BORING TOOLS are *Designed* for boring



Combined helical (a) and radial (b) backed-off cutting form permits resharpening on only one face (c)

Design is based on a mathematical formula which guarantees correct cutting and clearance angles anywhere around the periphery of cutting head—maintained uniformly within limits of ± few minutes of 1°.

Bokum tools are available in 3 cutting materials: (1) super high speed steel, Cat. 1139-6; (2) carbide tipped, Cat. 398; (3) solid carbide, Cat. 948.

In range of sizes to bore holes from 1/16" dia. up.

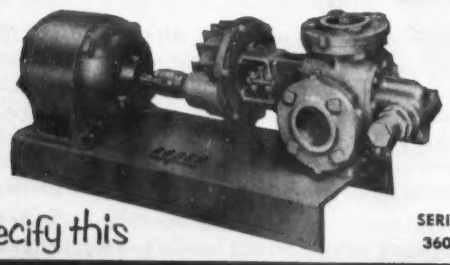
To extend further the already long life of Bokum Tools, we recommend the Resharpening Fixture, Cat. AB1 and AB412. Tool holders, vertical adjustment and fixed position, Cat. 483. Dept. T.

Because Bokum Boring Tools are designed, they are uniform and remain uniform.

BOKUM TOOL CO. 14775 Wildemere Ave., Detroit 38, Mich.

▲ For more details circle NED-660 K on enclosed inquiry slip ▲

For positive, reliable pump service for your liquid transfer operations...



Specify this SERIES 3600

ROPER General Purpose PUMP
40 TO 300 GPM . . . TO 100 PSI

- Handles a wide range of thick or thin liquids
- Self-lubricated by liquid being pumped
- Totally-enclosed gear reduction—choice of 3 ratios
- Furnished on bed plate, with or ready to receive standard motor
- Use indoors or outdoors . . . no pump house needed

Roper Hydraulics, Inc.
COMMERCE, GEORGIA

ROPER ROTARY PUMPS

▲ For more details circle NED-661 K on enclosed inquiry slip ▲

PORTABLE SANDBLASTER removes rust, paint, and scale

Easily carried from job to job, the Handi-Blast portable sandblaster has an over-all height of 23 in. and a tank diameter of 7 in. Weight is 23 lb empty and 53 lb filled with abrasive. Unit has a built-in sand funnel, automatic opening and closing filler valve, and a Vari-flow air operating valve. Air is consumed at about 8 cfm using the furnished 3/32-in. nozzle and the air supply from a 2-hp compressor. The 5/32-in. nozzle (also furnished) consumes about 20 cfm and requires a 5-hp compressor. Abrasives between 20 and 100 mesh can be used. • **Hamill Mfg. Co.**, Handi-Blast Div., Washington, Mich.

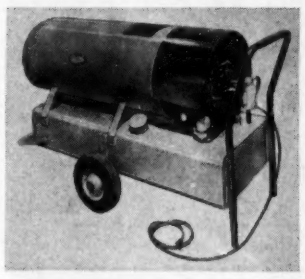
▲ For more details circle NED-662 K on enclosed inquiry slip ▲

RUBBER TIRED WHEEL made with three types of bearings

Iron core of this wheel is cast with a V-shaped rim onto which the rubber tire is molded. The V-shape keeps the rubber from spreading and flattening under heavy load. It also retains ample rubber at the center of the wheel for resiliency under shock loads. Wheel is available with roller, tapered roller, and sealed ball bearings. • **SI Handling Systems, Inc.**, Box 70, Easton, Pa.

▲ For more details circle NED-663 K on enclosed inquiry slip ▲

MOBILE SPACE HEATERS in 125,000 to 500,000 Btu ratings



Line of portable space heaters includes 125,000, 250,000, and 500,000-Btu oil-fired units and a new natural and LP-gas Model HE-SG-200 rated 200,000 Btu. Units have stainless steel combustion chambers, positive displacement fuel pumps, and fuel filters. Thermostats are standard on the two larger sizes. All sizes are mounted on wheels for mobility and will run for 16 hr on a tank of fuel. The LP-gas model weighs 45 lb and has carrying handle, thermostat, and safety controls. • **Aeroil Products Co.**, 9 Wesley St., South Hackensack, N. J.

▲ For more details circle NED-664 K on enclosed inquiry slip ▲

TOUGH CUSTOMER?

Watch Out... IT BITES!

You said a mouthful!

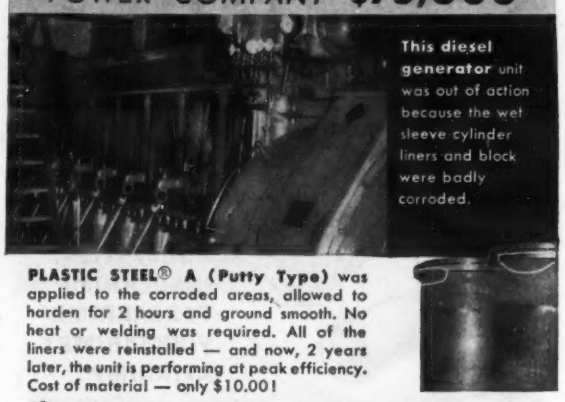
- . . . contains vanadium carbide—harder than a grinding wheel—twice as hard as carbon bands!
- . . . matches high speed steel band performance—yet costs 25% less!
- . . . outlasts . . . outperforms carbon bands 3 to 1 at regular speeds and feeds!
- . . . cuts even stainless and high temperature alloys *on standard machines!*
- . . . has high fatigue resistance!

write for full information
MILLERS FALLS COMPANY
Dept. NED-12, Greenfield, Mass.

MILLERS FALLS TOOLS SINCE 1868

▲ For more details circle NED-665 K on enclosed inquiry slip ▲

PLASTIC STEEL® SAVED THIS POWER COMPANY $75,000



This diesel generator unit was out of action because the wet sleeve cylinder liners and block were badly corroded.

PLASTIC STEEL® A (Putty Type) was applied to the corroded areas, allowed to harden for 2 hours and ground smooth. No heat or welding was required. All of the liners were reinstalled — and now, 2 years later, the unit is performing at peak efficiency. Cost of material — only $10.00!

The strongest, toughest, most versatile repair and tooling material available today!

Plastic Steel, THE ORIGINAL EPOXY REPAIR MATERIAL, and other Devcon products are used by steel mills, chemical plants and many other industries for repairing worn parts, salvaging cracked castings, sealing leaking hydraulic systems and tanks — building up worn pumps and valves — altering cams and gears — repairing fuel and water lines — even under pressure. Approved under Mil. Spec. MIL-C-15202. Bonds iron, steel, aluminum, brass, bronze, wood, ceramic, etc. to itself or each other. Write today for free case histories.

DEVCON CORPORATION
141 ENDICOTT STREET, DANVERS, MASS.

A COMPLETE LINE OF QUALITY PRODUCTS FOR PERMANENT REPAIRS AND PLASTIC TOOLING.

Order a supply from your local Industrial Distributor today. Free catalog and engineering reports available on request.

Reg. U. S. Pat. Off.

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GET THIS GUIDE TO GEAR LUBRICATION

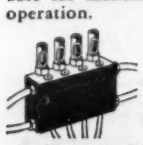
IT'S NEW

IT'S COMPLETE

IT'S **FREE**

If you design, build or use equipment with large gears, Bulletin 60-A can save you time, money and headaches—provides complete information on Farval Spray Lubrication Systems available for manual or automatic operation.

Write today. You will receive a copy of Bulletin 60-A and the name and address of the Farval representative in your area who is prepared to help you select the proper Farval equipment for your machines.



Farval Division
Eaton Manufacturing Company
3283 East 80th Street
Cleveland 4, Ohio

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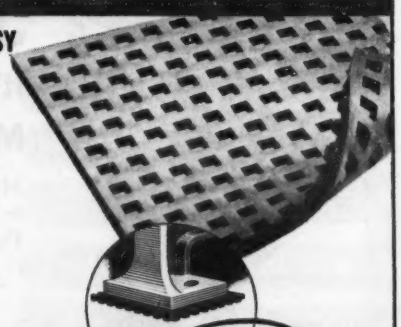
NEW REVOLUTIONARY DESIGN FOR LOW COST MACHINE MOUNTINGS

THE NEW EASY BETTER WAY TO INSTALL MACHINERY

Scientifically constructed suction cells anchor machine to floor. No bolts, lag screws or cement needed.



FABCEL Pads
Patent Applied For

Write for new catalog

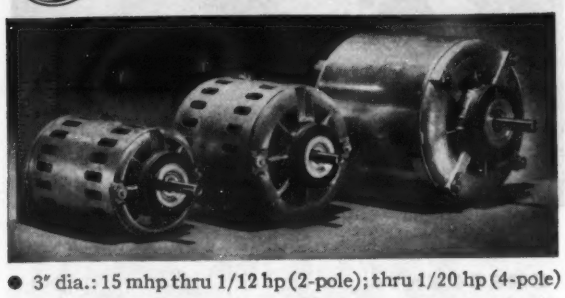
- Control Vibration
- Absorb Impact
- Reduce Noise

FABREEKA PRODUCTS COMPANY, INC.
1190 Adams Street, Boston 24, Mass.
Representatives in principal cities
In Canada: International Equip. Co., Ltd. Royal Bank Bldg., Montreal

made by the makers of Fabreeka

▲ For more details circle NED-668 K on enclosed inquiry slip ▲

SMALL, QUIET, CONSTANT SPEED AC MOTORS



- 3" dia.: 15 mhp thru 1/12 hp (2-pole); thru 1/20 hp (4-pole)
- 3 7/8" dia.: 15 mhp thru 1/3 hp (2-pole); thru 1/8 hp (4-pole); thru 1/20 hp (6-pole)*
- 4 7/8" dia.: 1/20 hp thru 1/4 hp (2- and 4-pole); thru 1/8 hp (6-pole)*
  - **SMALL, LIGHT:** enhances your product designs.
  - **SAVE:** space, weight, freight.
  - **DEPENDABLE:** long life—minimum service costs.

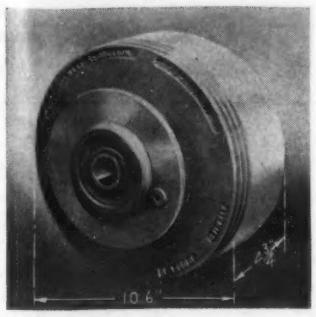
*3-phase ratings also available.

FREE BULLETIN! Write for descriptive bulletins to Section 633-4, Schenectady, N. Y.

GENERAL ELECTRIC

▲ For more details circle NED-669 K on enclosed inquiry slip ▲

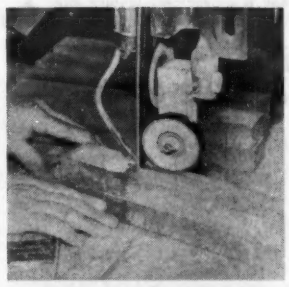
SMALL SPEED REDUCER provides 2.52:1 to 76:1 reductions



Only 10.6 in. in diameter and 4¾ in. wide, Model D shaft mounted reduction pulley provides reductions from 2.52:1 to 76:1 in ¼ to 12-hp applications. It can be supplied as a plain speed reducer, or as a reducer with a friction clutch, giving reduced speed plus pulley speed, or as two-speed reducer with both speeds clutch-controlled. Speeds can be in the same or opposite directions. • **Hart Reduction Pulley Co.**, 1116 Adams St., Waukesha, Wis.

▲ For more details circle NED-672 K on enclosed inquiry slip ▲

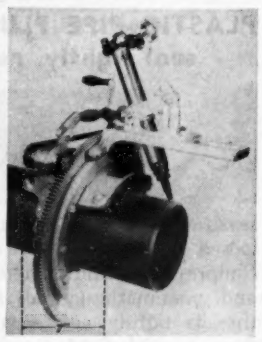
DIAMOND-COATED SAW BANDS will cut hard, brittle materials



Both edge-coated and fully-coated bands are available in this line of diamond-coated band saw blades, made in widths from wire to 1¾ in. Small particles of natural diamond are bonded directly to the steel body of the bands. Pattern shapes in glass reinforced plastics, ceramics, marble, pure glass, and other hard, brittle materials can be cut on standard band saw machines equipped with the bands and special rubber tired guide rollers to prevent vibration. Thin materials can be cut without coolant, but heavy, dense materials require a water or water-oil emulsion. • **Dia-Chrome Co.**, San Fernando Road at W. Elk Avenue, Glendale, Calif.

▲ For more details circle NED-673 K on enclosed inquiry slip ▲

PIPE BEVELING MACHINE six sizes cut up to 36-in. pipe



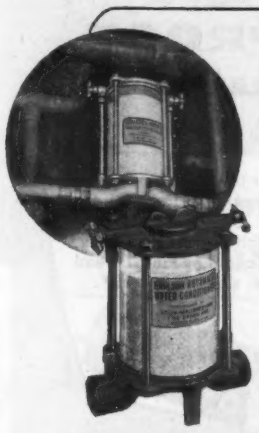
Balanced ring gear-saddle assembly makes it possible to cut short segments of pipe with this pipe cutting beveling machine. It has been redesigned to minimize weight and storage space required, and cuts with a gas torch. Six models are offered: Midget, with a ½ to 4-in. capacity; No. 1, 4 to 8 in.; No. 2, 8 to 12 in.; No. 3, 14 to 20 in.; No. 4, 22 to 26 in.; and No. 5, 28 to 36 in. • **C. A. Mathey Machine Works, Inc.**, 212 S. Frankfort, Tulsa, Okla.

▲ For more details circle NED-674 K on enclosed inquiry slip ▲

It's so easy!

Get Sparkling Clear, Conditioned Water with KARLSONITE*

HALTS CORROSION and SCALE DEPOSITION
Prevents Rust Stains on Equipment



KARLSONITE phosphate water conditioner holds minerals and metallic elements in water in perfect suspension, preventing clogging deposits that reduce efficiency of boilers, heat exchangers, cooling towers, etc.

Water for human consumption, too, is vastly improved. Crystal-clear, tasteless and non-toxic, it produces no deposits or rust stains in ice cubers, coffee urns and other equipment in most cases . . . when conditioned with KARLSONITE.

An easily installed KARLSON dispenser feeds KARLSONITE into the system automatically. With no moving parts, maintenance is nil. Only occasional replacement of the conditioner is required.

With KARLSONITE, it's so easy to get the *most* and the *best* out of your water system. The cost? Amazingly low. Why not investigate?

Write for full information

STILES-KARLSONITE CORPORATION
1564 Grand Avenue • Waukegan, Illinois

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Surety saves you money

FOUR-2-ONE

VINYL IMPREGNATED WORK GLOVES

SLIP ON STYLE

PROVIDING *Longer Wear at Lowest Cost*

As the name indicates, count on these Surety gloves outwearing cotton and many leather types **four or more to one** in most work. Users report great resistance to snagging and abrasion plus easy finger flexing and hand comfort. You can wash them, too; come up sparkling bright and lint free. Available in men's and women's sizes, two styles illustrated. Want samples? Check your Surety distributor or write today.

KNIT WRIST STYLE

THE SURETY RUBBER CO. CARROLLTON, OHIO Dept. N

In Canada: Safety Supply Co., Toronto

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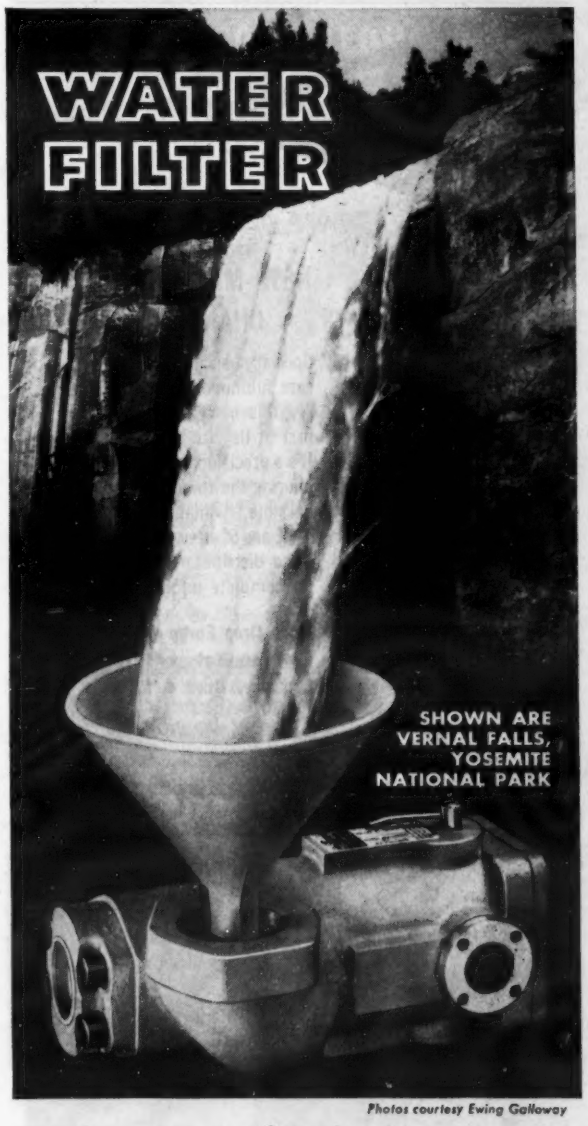

Photos courtesy Ewing Galloway

TELL-TALE® FILTERS for

- **WELDER COOLANT: Tips, Rectifiers, Ignitrons**
- **WATER BASE Fluids and WATER HYDRAULICS**
- **STEAM BOILER FEED**
- **HYDRAULIC PRESS COOLING**
- **GRINDING Fluids • CUTTING Fluids**
- **WATER SOFTENING; De-SALINizing; De-IONizing**

Minerals suspended in water are precipitated out by heat; form insulating deposits which reduce transfer of heat to coolant. Water cooled welding tips and rectifier tubes last longer when coolant is effectively filtered. Water processing devices need less frequent replenishing when suspended debris is first filtered out. Write or phone for details. Distributors in principal cities U. S. and Canada.

THE ROSAEN COMPANY
1776 E. 9 Mi. Rd. Hazel Park, Michigan, U.S.A.

*Trade Mark Reg. TELL-TALE filters covered by Patents U. S. and abroad.

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ROTOFORMS

Straight-side cones, straight-wall tubes, curvilinear-wall shapes, and elliptical or hemispherical shapes can now be economically produced by ROTOFORMING from carbon steels, stainless and special alloy steels, as well as aluminum, nickel, copper, molybdenum, magnesium and titanium alloys.

ROTOFORMED shapes range in dimensions from a minimum tube I.D. of 2½" to a maximum diameter of 42". Tube lengths can go up to 100". Steel blanks up to ¾" thick for conical shapes and up to ⅝" for straight-wall tubes can be successfully handled. Both constant and variable wall thicknesses as thin as 1/32" are practical. Extremely close, machine-like tolerances are routine.

STRAIGHT-SIDE ROCKET CONE—Spun with tapered wall from 1020 steel blank; 18" diameter, 1" thick. Inside surface 125 MIF.

STRAIGHT-SIDE MISSILE EXIT CONE—Spun with constant wall thickness from press preformed 1040 steel blank; 29" diameter, ¾" thick.

STRAIGHT-WALL ROCKET TUBE—Spun from 4135 steel tubing (wall thickness ½") reduced to a finished wall .051" thick.

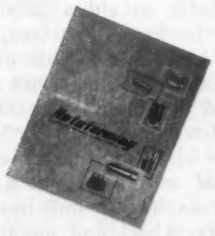
open new horizons for metal shape design

ROTOFORMING gives you all of these many advantages:

- Saves metal
- Minimizes machining and surface finishing
- Increases tensile and yield point
- Improves fatigue strength
- Reveals and rejects hidden metal flaws

SEND FOR FREE BULLETIN

Illustrated and informative Bulletin 500-P2 describes COMMERCIAL's revolutionary new metal forming service ROTOFORMING in detail.



Write Commercial Shearing & Stamping Company, Dept. J-40, Youngstown 1, Ohio.

COMMERCIAL *shearing & stamping*

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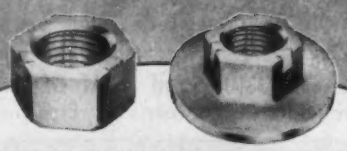
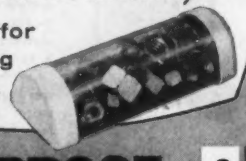


SHAKEPROOF® Lokuts®

Prevailing torque type Lock Nuts

Lock any place on screw or bolt. Triple-sheared LOKUTS provide friction locking action, yet are designed for free starting. Unaffected by temperature changes, bolt stretch or work pressures, LOKUTS are available in Coarse or Fine Thread Series, Class 2-B tolerance, sizes #6 to 1/2".

Send today for free testing samples.



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DIVISION OF ILLINOIS TOOL WORKS

St. Charles Road, Elgin, Illinois

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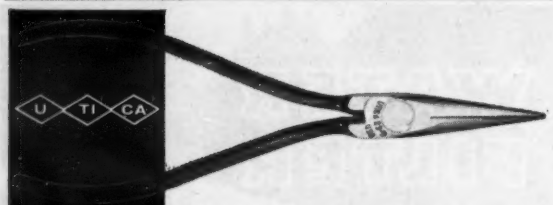

UTICA

NEW MIDGET CHAIN NOSE!

Specially designed for delicate subminiature assembly, this new plier is the first of its size and kind. It's a precision instrument offering the thinnest nose possible. Available in 4", 4½", and 5" sizes. Call your Utica distributor or write for complete information.

Utica Drop Forge & Tool Division, Kelsey-Hayes Company, Utica 4, N. Y.

tools the experts use!

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Plastic or Rubber Parts Produced by the Hundreds or by the Millions

WE MATCH YOUR SPECS AND YOUR PRODUCTION SCHEDULES

WE CAN produce in quantity any part made of molded solid rubber or of extruded flexible vinyl plastic (illustrated). We have complete engineering and technical personnel for working with you on developing the design or redesigning a part, plus a long and successful performance record on quality and deliveries to schedule. Send drawing, sketch or part for prompt quote.

REPUBLIC RUBBER DIVISION

EEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

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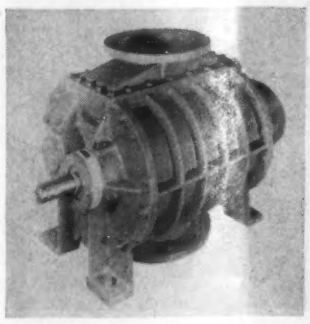
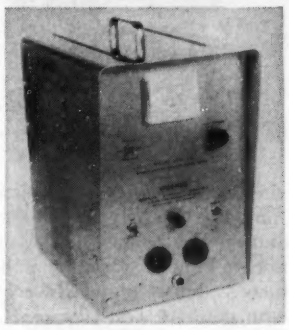
ROTARY BLOWERS in 2 to 8-in. gear diameters



Series B rotary positive displacement blowers with gear diameters from 2 through 8 in. feature a thrust bearing kit on the drive shaft, steel gears, and dynamically balanced impellers. The thrust kit locks the axial movement of the shaft to prevent impeller rub against the headplate. Blowers usually operate with bottom inlet and top discharge, but can be reversed for bottom discharge, if desired. They can be direct-connected or V-belt driven and are made in L, M, and H case lengths for most gear diameters. A metered volume is delivered for each revolution of the Figure 8 impellers which rotate in opposing directions. • **Sutorbilt Corp.**, 2966 E. Victoria St., Compton, Calif.

▲ For more details circle NED-680 K on enclosed inquiry slip ▲

WELDER POWER SUPPLY for miniature electronic welding



Step-free adjustable range of power from 0.01 to 40 w-sec is delivered in 0.001 sec by the VTW-29 power supply for miniature electronic welding operations. A pulse width of 1 millisecond prevents burning or discoloration of material. Weld speeds up to 120 spots per minute are possible. Power supply cabinet occupies less than 1 sq ft of bench space. All controls and watt-second meter are easily visible with any weld head. • **Hughes Aircraft Co.**, Vacuum Tube Products Div., 2020 Short St., Oceanside, Calif.

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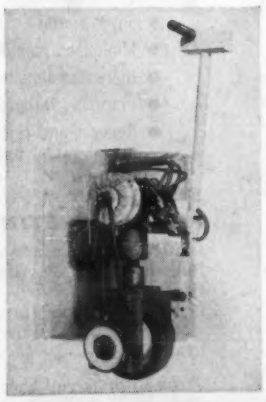
PLASTIC PIPE PLUGS seal tightly, resist vibration

Usable with all types of organic fluids, these lightweight Du Pont Delrin pipe plugs seal tightly without sealing compound. They will not loosen under severe vibration in such installations as compressors, pumps, meters, appliances, and hydraulic and pneumatic cylinders. Pressure forces the plug threads tightly against the mating threads, enabling them to withstand pressures from 3000 to 10,000 psi in tests. Delrin thermoplastic has dimensional stability, tensile and flexural strength, resilience, and toughness, and will resist temperature, humidity, solvents, and stress. Plugs are made in 1/8, 1/4, 3/8, and 1/2-in. sizes with square heads and 1/8 and 1/4-in. sizes with hex heads. • **Russell, Burdsall & Ward Bolt & Nut Co.**, Dept. D, 100 Midland Ave., Port Chester, N. Y.

▲ For more details circle NED-682 K on enclosed inquiry slip ▲

ROLLER POWER UNIT propels hand-pushed equipment



Hand propelled trucks and equipment are economically converted to power propulsion by the Dyna-Drive rolling electric power unit. Available in either 3000 or 8000-lb capacities, compact unit has either a fluid drive or centrifugal clutch and will travel 2½ mph. The 3000-lb drive has a 10 x 3-in. drive wheel and handle controlled mechanical brake, whereas 8000-lb unit has 10 x 4-in. wheel and an automatic deadman brake. Articulated traction assures smooth starting and rolling. Wheel, designed to carry only weight of propulsion unit itself, rides up and down freely, compensating for floor irregularities. • **Colson Corp.**, 7 S. Dearborn St., Chicago, Ill.

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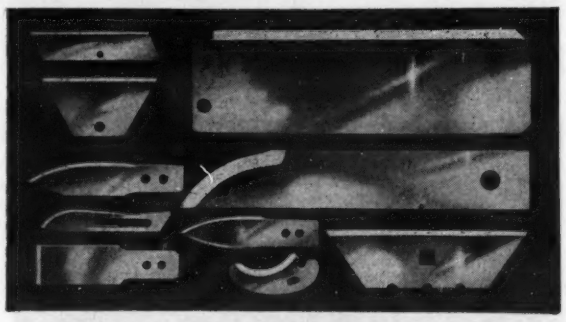

WHY RE-SHARPEN?

CRESCENT disposable knife blades are custom engineered to your specifications — made of Swedish surgical steels in any length required, width to 2¼ inches and thickness to 0.050-in.

CRESCENT disposable knife blades with razor-honed edges eliminate the cost of re-sharpening dull knives — give you higher production, more uniform product, greater efficiency, and longer cutting life.

CRESCENT engineers will solve your cutting problems, too. At no obligation, write and specify the type of knives you use, how many, what you cut, and how.

Write to: Engineering Department
CRESCENT MANUFACTURING CO.
Fremont, Ohio

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HOW TO MAKE LINKAGES with Self-Aligning ROD ENDS

HEIM Unibal® SPHERICAL BEARING ROD ENDS

Many combinations possible with male and female threaded units. They compensate for misalignment.

There is practically no limit to the length of linkages possible by using appropriately threaded extension rods.

Send for Catalog #100

THE HEIM COMPANY
800 SANFORD STREET, FAIRFIELD, CONN.

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HEAT?
PRESSURE?

AEROQUIP

Flexible Hose of Teflon and Reusable "super gem" Fittings*

Whatever your steam problem here's your answer!

When you find heat, pressure or flexing cuts life of ordinary hose, get our bulletin IEB-50— or look in "Yellow Pages" under "Hose" for your Aeroquip Distributor.

*U.S. Patent Nos. 2,833,567 and 2,731,279
"super gem" is an Aeroquip Trademark
Teflon is DuPont's trade name for its tetrafluoroethylene resin

STANDARDIZE ON Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN
INDUSTRIAL DIV., VAN WERT, OHIO • WESTERN DIV., BURBANK, CAL.
AEROQUIP (CANADA) LTD., TORONTO 19, ONTARIO

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TRANSFER FUEL FASTER!

- Pumps on forward and back strokes
- Delivers up to 20 gpm with up to 20-foot lift
- Vacuum breaker prevents siphonage
- No foot valve
- Models for farms, garages, factories, construction jobs
- Available with automatic nozzle

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BENNETT PUMP DIVISION • MUSKEGON, MICHIGAN
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QUALITY PRODUCTS JOHN WOOD SINCE 1861

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- color code enamels
- marking enamels
- ASA machinery gray enamels
- wrinkle finishes
- high-heat aluminum
- zinc chromate primer
- gray primer-surfacer

CHECK LIST

Which of these self-spraying products can you use?

- open gear and wire rope lubricant
- light oil lubricant
- penetrating oil
- dry graphite lubricant
- all-purpose silicone lubricant
- clear plastic
- silicone mold release
- red insulating varnish-enamel
- battery terminal protector
- blue layout fluid
- layout fluid remover
- anti-rust spray
- electric motor degreaser
- engine degreaser
- Jet-Pak self-powered spray gun

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Sprayon AEROSOLS FOR INDUSTRY

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CONDUIT & PIPE BENDER
powered by two-speed hand pump

Aluminum or steel conduit and pipe in sizes from 1¼ to 4 in. are easily bent by the No. 777 segment bender. With optional parts it will perform 90-degree one-step bending of ½ to 2-in. pipe and ¾ to 2-in. thin-wall conduit. Normally powered by a two-speed, 10,000-psi hand pump, it can be operated also by a power pump for faster operation. The 27 tons of pressure developed will bend extra-heavy Schedule 80 pipe. Weighing only 65 lb, exclusive of shoes, it is easily moved and operated by one man. • **Greenlee Tool Co.**, 2136 12th St., Rockford, Ill.

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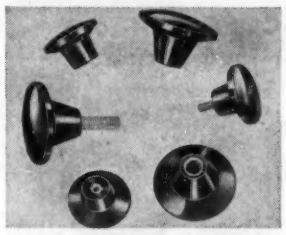
MOLDED PLASTIC KNOBS
push-pull and lid types



Angular contour and crowned top surface are combined in No. 236 and 237 push-pull and lid knobs, available in many phenolic and urea colors, plus the standard black phenolic. No. 236 is slightly less than 2 in. across the top and has ¼ to ⅜-in. diameter tapped brass inserts or protruding studs of the same size. No. 237 is molded in three-quarter scale with a 1⅜-in. top diameter and No. 10 to 5/16-in. brass inserts or studs. Although produced from stock tooling, they may be tailored to specific requirements. Rounded top surfaces permit molding a trademark. • **Dimco-Gray Co.**, 207 E. Sixth St., Dayton 2, Ohio.

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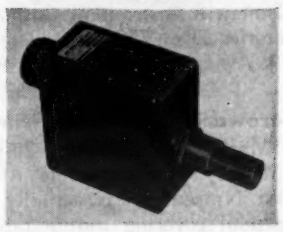
LIQUID LEVEL INDICATOR
withstands high heat, vibration



This liquid level indicator operates reliably under severe heat and vibration conditions. It can be used to measure lubricants and other liquids on aircraft and industrial engines, and on a wide range of processing equipment. Sensing element, which is combined with an electronic control, will perform with various liquids unsuitable for capacitive, photoelectric, and mechanical sensors. Response time is adjustable. Indicator remains off until liquid level drops to predetermined point when it flashes or sounds a warning. Sensor and controls can also be installed separate from indicator. • **United Aircraft Corp.**, Hamilton Standard Div., Electronics Dept. D-40, Broad Brook, Conn.

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SNOW THROWER
self-propelled, cuts 20-in. swath

All types of snow from wet slush to crusted ice are removed with ease by the self-propelled, two-stage Bob-Cat Model 820 snow thrower. High speed blades in the Sno-Flo feeder draw the snow into the feeder, then move it into the high speed thrower. With no "dead spots" in the 20-in. wide by 14-in. high feeder case, there is no stalling in heavy snow. Shoes regulate the cutting height. Machine lifts and throws the snow through the discharge chute up to 30 ft to the right or left, or at any angle within a 180-degree arc. The 3-hp Briggs & Stratton engine has an automatic starter. • **Wisconsin Marine Co.**, Lake Mills, Wis.

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whatever the job...

PERMACEL STRAP-IT
TRADEMARK
Pressure Sensitive Tape Dispenser

PERMACEL *New Brunswick, N.J.*
TAPES • ELECTRICAL INSULATING MATERIALS • ADHESIVES

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Products start *flowing*, you start *saving* when you move in a Unitable belt conveyor. Assemble it yourself — even alter it yourself when you need a change in side leaves, lengths or speed. Thousands of Unitable Conveyors have paid for themselves many times over. Here's conveyor equipment within anyone's budget!

Circle 694 on inquiry slip for full information and specifications.

CONVEYOR SPECIALTY
COMPANY, INCORPORATED
Distributors in Principal Cities

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DEUBLIN COMPANY
1925 STANLEY ST. • NORTHBROOK, ILL.

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THE Harrington & King PERFORATING CO. INC.

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AERO-MOTIVE MFG. CO.
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MOLYKOTE® G LUBRICANT

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- ELIMINATES STICK-SLIP, METAL PICK-UP AND DISTORTION IN PRESS FITTING
- REDUCES WEAR-IN TIME AND DAMAGE IN NEW OR REBUILT MACHINERY
- THE HIGHER THE LOADS, THE GREATER THE MARGIN OF SUPERIORITY OF MOLYKOTE G

Write for your free sample of MOLYKOTE G LUBRICANT today. We will also send you a copy of our new Bulletin 126 which gives complete details. THE ALPHA-MOLYKOTE CORPORATION, 65 Harvard Avenue, Stamford, Conn. Phone Fireside 8-3724. Plants in Stamford, Conn., Munich, Germany and Strasbourg, France.

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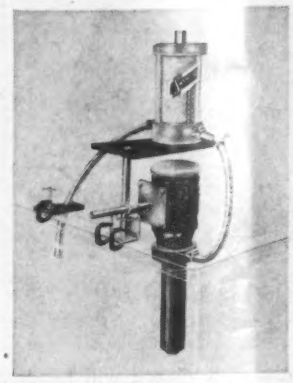
THE ALPHA-MOLYKOTE CORP.
65 Harvard Ave., Stamford, Conn.
Please send me a free sample of your MOLYKOTE G Lubricant.
NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

For more details circle NED-698 K on enclosed inquiry slip

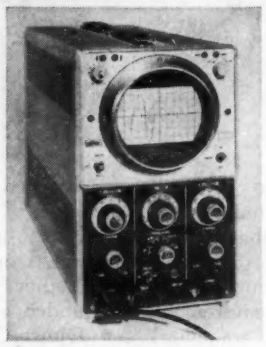
IN-TANK FILTER SYSTEM for precious metal plating



Trouble-free Series XAL continuous-duty in-tank filter system for precious metal plating departments and research labs having small plating tanks combines advantages of both centrifugal and self-priming filter systems. Filtration down to 1 micron is provided by cotton or Dynel filter tubes. Porous stone and porous carbon filter tubes are also available. Model XAL-1 filters 10 gph and Model XAL-5 handles 50 gph. Pump, powered by 1/8 hp, 115-v Universal motor, delivers 250 gph, and stainless steel pinch valve regulates flow. Wide application of system is made possible by the variety of materials in which pump and filter chamber are available. • **Sethco Mfg. Corp.**, 2284 Babylon Turnpike, Merrick, L. I., N. Y.

For more details circle NED-699 K on enclosed inquiry slip

STORAGE OSCILLOSCOPE retains traces for long periods



Oscilloscope patterns are indelibly frozen instantly on the face of a cathode ray tube for periods of time from minutes to days with the Type 430 StoreScope, a storage type oscilloscope. Storage tube produces a dark trace on a light background. Actual storage time is determined by ambient temperature and density of recorded trace. The image is retained in the event of line voltage failure, and erasure can be accomplished in a maximum of 15 sec with a recycle every 40 sec. The oscilloscope can be used as a storage scope or as a conventional general purpose instrument. Tube life is about 1000 hr. An erase warning light and back lighting for photo recording are incorporated. • **Fairchild Camera & Instrument Corp.**, Allen B. Du Mont Laboratories Div., 750 Bloomfield Ave., Clifton, N. J.

For more details circle NED-700 K on enclosed inquiry slip

Screwdriving & Nutsetting Air Tools

Master Power Corp.—26-page Catalog N.S. 60 on "Master Power Portable Air Tools for Screwdriving and Nutsetting" is actually a complete tool-selection manual covering torque ranges from 2 to 160 lb-in. To aid proper selection, booklet outlines basic motor sizes and speeds, proper clutches, and handle styles. The best driving bit for a specific fastener is also indicated.

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ELASTICONE® STEEL RIBBON COVERS

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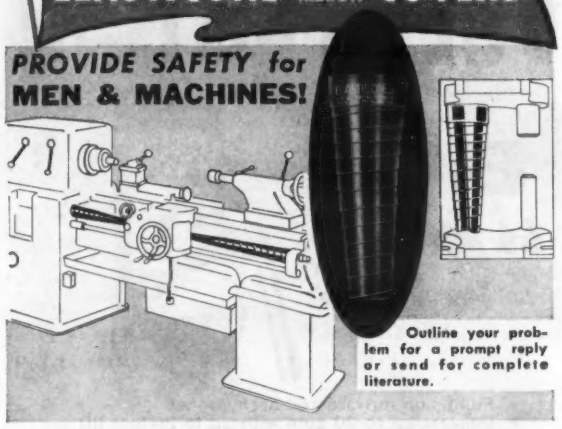


Outline your problem for a prompt reply or send for complete literature.

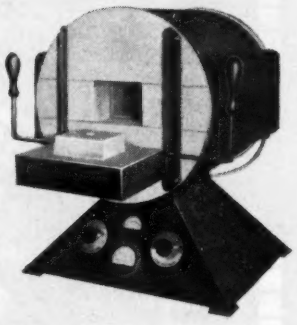
Elasticones are metal-formed, cone shaped covers that open and close automatically to provide protection against dirt, damage, and catching of limbs, for all precision moving parts. Available in all finishes and sizes from 3/8" diameter up to 60" long.

Stocking distributors in principal cities

ELASTICONE DIVISION
CENTRAL SAFETY EQUIPMENT CO.
6607 Marsden St., Philadelphia 35, Pa. • DEvonshire 3-4788

For more details circle NED-703 K on enclosed inquiry slip

Hevi-Duty
"G-07-PT" FURNACE
temperatures to 2600° F.



This furnace is designed for high-temperature work where accurate control and uniformity are important. Controls, which provide 48 temperature gradients, and an indicating pyrometer are located in the pyramid base. For greatest uniformity in the heating chamber, three heating elements are installed over and three are beneath the refractory muffle.

Write for Bulletin 957 for full details.

Type	Watts	Chamber			Price
		W.	L.	H.	
G-07-PT	3500	4"	7"	2¾"	$585.00

*Operating voltage either 115 or 230 A.C. only.

HEVI-DUTY ELECTRIC CO. Milwaukee 1, Wisconsin

• LABORATORY FURNACES

TRADE MULTIPLE UNIT MARK

• ELECTRIC EXCLUSIVE

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Available in Stainless Steel, Brass, Aluminum and Steel

JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

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the penetrating force of...

COLD STEAM

CLEANS FASTER, BETTER, CHEAPER

Handle all kinds of cleaning jobs with the greatest of ease with HYDRO-AIR. This gun-type cleaner connects to standard air and hot or cold water supply. Compressed air "breaks" water into minute particles producing a dense penetrating force which blasts heavy dirt or quickly rinses metal sheets and small parts. Operates on 1 H.P. compressor and uses less than 3½ c.f. of air and 3½ gals. of water per minute. Easy to handle — weighs less than 2 lbs. Rubber sleeve protects user's hand when hot water is used.

$12.95

● NEW... Siphoning attachment for application of cleaning solvents — under pressure — on parts, machinery or any difficult surfaces for cleaning.

HYDRO-AIR PRESSURE WASHER

BLASTS STUBBORN DIRT! HARMLESS TO FINEST FINISH!

ORDER THROUGH YOUR SUPPLIER — or write direct. (Inquiries invited from industrial cleaning compounders interested in resale.)

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HYDRO-AIR is widely used throughout these industries:

Aviation	Construction	Transportation	Meat Packing
Automotive	Pharmaceutical	Railroads	Baking
Food Processing	Paper	Petroleum	Foundries
Brewing	Ship Building	Mining	Jewelry
Dairy Products	Textile	Metalworking	Leather

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When New Molds Stick use IMS SILICONE FLUID

For Better Tool and Die Lubrication!

Shorten costly break-in periods! Simply spray on this perfect parting agent from self-dispensing aerosol! Useful too in PATTERN MAKING — releases patterns from master molds with minimum surface defects. Remember...

WHERE ANYTHING STICKS it always pays to try IMS SILICONE SPRAY

Get new tools into production sooner. Keep a few cans handy all the time. Order today!

DELIVERED PRICES
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Unbroken Gross . . . $197.40

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3514 LEE ROAD WYoming 1-1424 CLEVELAND 20, OHIO

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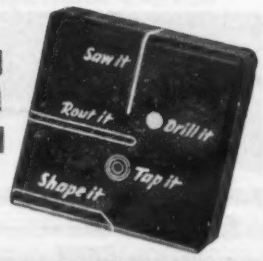
TEST IT YOURSELF!

FREE block of



MASONITE BENELEX!

You don't have to take our word for the cost-cutting properties of Masonite® Benelex®, the famous high-density laminate. Send for your free test block. Heft it; it's one-sixth the weight of steel. Work it in your own shop; it machines beautifully. What's more, we'll send you a free booklet giving all specifications and suggestions for use. Address Masonite Corporation, Dept. NED-10, Box 777, Chicago 90, Ill.

FREE BOOKLET SHOWS USES

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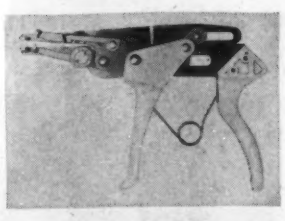
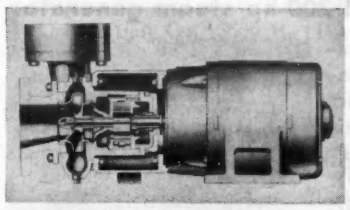
WIRE STRIPPING TOOL for solid and stranded wires



Cam action calibrated dial of the SW-1 Stripwright wire stripping tool can be adjusted to strip from No. 12 to 26 wire sizes with a thickness range up to 0.080-in. It will not nick the wire. Tool cleans and strips most types of insulation, including Teflon, on both solid and stranded wires. Squeeze grip, slide action tool has an adjustable stop which permits stripping at any point on a wire to a maximum of 7/8 in. per stroke. Tool weighs 7 oz. ● Kelsey-Hayes Co., Utica Drop Forge & Tool Div., 2500 Whitesboro St., Utica 4, N. Y.

▲ For more details circle NED-709 K on enclosed inquiry slip ▲

SELF-PRIMING MOTOR-PUMP 5, 7½, 10, and 15-hp sizes



On straight suction, the Centri-Prime Motorpump will prime under lifts up to 19 ft total head. Once the liquid reaches the standard impeller the centrifugal pump takes over. It is a compact single-stage, single-suction centrifugal pump with built-in positive displacement type priming unit. The Model RVSW unit has a 3-in. discharge and is available in 5, 7½, 10, and 15-hp sizes. Deliveries range up to 600 gpm and heads up to 120 ft. ● Ingersoll-Rand Co., Phillipsburg, N. J.

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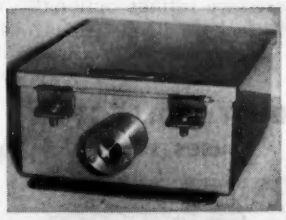
INFRARED DETECTOR-RELAY responds to hot moving objects only

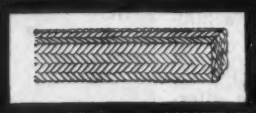


Presence of any moving hot object is sensed by the E-M infrared detector-relay which will start, stop, or adjust any relay-controlled equipment associated with the process. The drift-free unit can be used at distance up to 20 ft. It does not "see" a hot background, and will operate in areas in which heat, light levels, steam, and smoke conditions vary widely. Unit is cased in a heavy-gage, watertight JIC enclosure and requires 1 amp at 100-125 v, 60 cycles. Temperature range is 0 to 125° F, and response time is 20 milliseconds. Typical uses in the steel mill include controlling furnace doors and water sprays, starting and stopping gages and controls, and counting and recording. Detector can be equipped with remote or water-cooled remote sensing units and ranges in price from $375 to $675. ● Electron-Machine Corp., Umatilla, Fla.

▲ For more details circle NED-711 K on enclosed inquiry slip ▲

2-10 TIMES LONGER LIFE

NEW PALMETTO® Teflon* Filament Packing



for service with strong acids, corrosive fluids, solvents

Specify Palmetto!—Pure Teflon yarn gives exceptional chemical resistance and lubricating qualities. Packing is supplied in Palmetto's dense but flexible "interwoven" form for use on pumps and valves. Furnished plain or impregnated with Teflon suspensoid.

Ask your distributor for Catalog FF-1059.

*E. I. duPont de Nemours & Co. (Inc.) trade mark for Polytetrafluoroethylene

GREENE, TWEED & CO.
NORTH WALES, PA

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REDUCE MACHINING EXPENSE with the MONOPAK® CARTRIDGE

Special features:
- Longer service life
- No machining, ready to use
- Tamper-proof, needs no adjusting
- Easily installed or replaced
- Includes "Seal Guard®" rod wiper
- Cuts machine down-time
- Low friction down-time
- Anti-backlash rings

A complete packing unit for hydraulic or pneumatic rods or cylinders, this cartridge combines all necessary packings, bearings, and rod wipers into one shock and burst proof unit.

Write for complete information

HYDRAULIC ACCESSORIES CO.
24301 Hoover Road
Warren, Mich.

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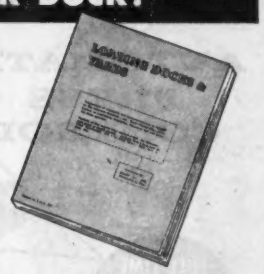
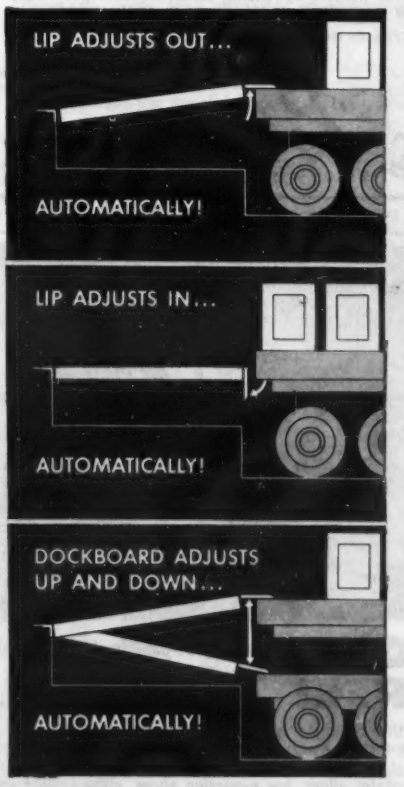
ARE YOU PLANNING A NEW TRUCK DOCK?



KELLEY'S New FREE DOCK PLANNING KIT Can Help You!

Whether you're at the blueprint or "just thinking" stage, you need Kelley's brand new reference booklet on loading dock layout. It provides important data on driveway, aisle, canopy and door requirements, dock heights, current truck-trailer dimension restrictions, etc. Also, includes complete specs on industry's No. 1 Adjustable Dockboard—Kelley's ADJUST-A-LIP. Make yours a modern, efficient and safe dock operation. Act now! Mail coupon today!



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KELLEY COMPANY INC.
2153 W. MILL ROAD
MILWAUKEE 9, WIS.

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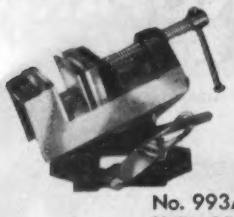
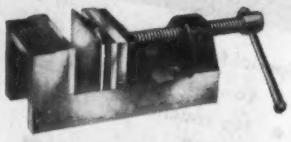
New Stanley-Yankee Vises cut costs at bench and machine



No. 4993A
Swivel-Tilt Vise
3" Jaws



No. 993A
Utility Vise
3" Jaws

New No. 4993A Swivel-Tilt Vise combines swivel base and angle base for quick compound angle set-ups. The exclusive dovetail slot in the vise permits adjustment the full length while retaining the swivel feature. Vise can be detached from swivel-tilt base quickly and easily.

New No. 993A Utility Vise with 3" Jaws—precision-built for machine shop use.

Vises and bases are available separately. Ask your industrial supply distributor for details, or write Stanley Tools, 5810 Elm St., New Britain, Connecticut.

STANLEY The Tool Box of the World ®

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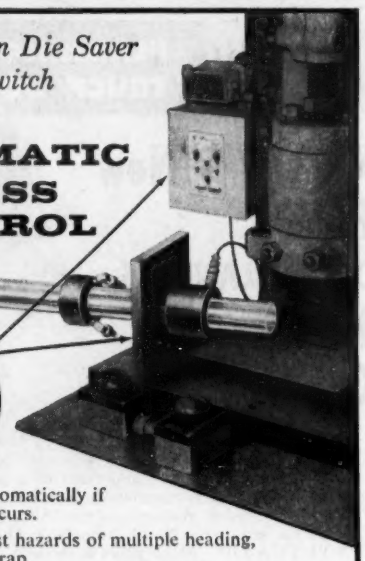
New Robotron Die Saver Proximity Switch provides . . .

AUTOMATIC PRESS CONTROL



FULL TIME SURVEILLANCE of Press Operations!

- Stops press automatically if malfunction occurs.
- Protects against hazards of multiple heading, die damage, scrap.
- Keeps presses operating efficiently and profitably *with limited supervision.*
- Increases output . . . reduces rejects.

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With this complete, yet concise, alloy booklet you can now choose from the world's largest selection of alloys . . . including high permeability alloys, magnetic core irons, temperature compensator alloys, low expansion alloys, glass sealing alloys and an electrical resistance alloy.

The engineering, fabrication and service information it contains will help you select the special alloy you need. Get your free copy now by sending your request on your company letterhead, today. The Carpenter Steel Company, 118 W. Bern Street, Reading, Pa.

Carpenter steel

Alloys for electronic, magnetic and electrical applications

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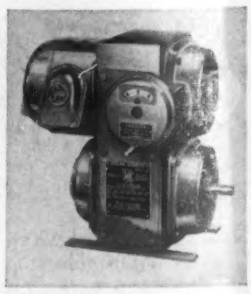
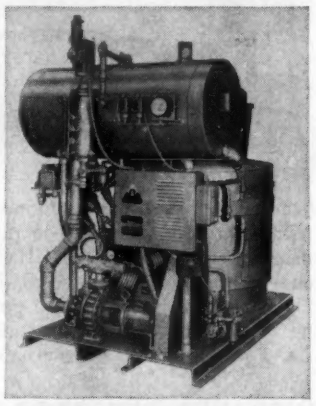
FHP VARIABLE SPEED DRIVE speeds range from 1.2 to 4660 rpm



Speed ranges from 1.2 to 4660 rpm with up to 10:1 variation are offered in 1/4, 1/2, and 3/4-hp Speed-Trol variable speed drives. Compact and lightweight, units retain important NEMA standard dimensions for shaft height and diameter, permitting substitution for standard motors. Single and three-phase units are offered in dripproof, totally enclosed, and explosionproof enclosures, with right angle and helical gears. • **Sterling Electric Motors, Inc.**, 5401 Telegraph Rd., Los Angeles 22, Calif.

▲ For more details circle NED-718 K on enclosed inquiry slip ▲

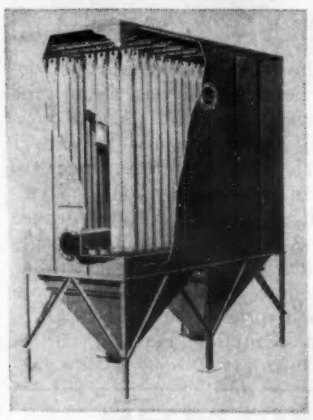
AUTOMATIC BOILER is packaged 200-hp steam generator



Quick steam generation, automatic modulation, and compact size are features of this 200-hp Modulatic boiler (Sept. '58 *NED*). Conforming to ASME requirements, it is UL-approved, Hartford inspected, and National Boarded. This packaged unit develops full output in 5 min or provides instant hot water from a cold start. Fired with gas, oil, or combination, it generates 5 hp per sq ft of floor space and is designed for steam pressures to 250 psi, with higher pressure ratings optional. • **Vapor Heating Corp.**, 80 E. Jackson Blvd., Chicago 4, Ill.

▲ For more details circle NED-719 K on enclosed inquiry slip ▲

DUST COLLECTOR uses several types of fabrics



Envelope type for low gas volume applications and a tubular type for high gas volumes are available in this dust collector line. Envelopes and tubes are made in a variety of fabrics, including cotton, Orlon, nylon, Dacron, and glass fiber. Cleaning is by a shaker mechanism or by reverse gas flow. Efficiency ranges up to 99.9 per cent and capacities are from 100 to 48,000 cfm. Standard units can be combined to obtain larger volumes. Units have from 14 to 400 bags and one, two, or three hoppers. Cutaway view shows a 180-tube model for handling 8500 cfm of gas. • **John Wood Co.**, Air Pollution Control Div., Essex Bldg., Bernardsville, N. J.

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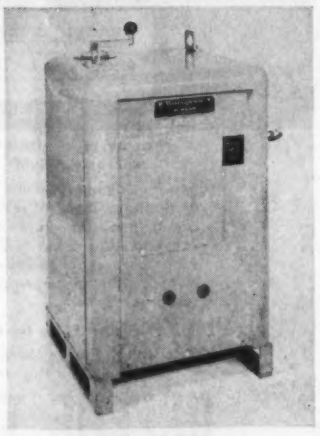
AC WELDER operates from 230/460 v primary



NEMA rated as a 500-amp machine, the West-ing-arc Type TC transformer type alternating current welder has an open circuit voltage adequate for excellent starting with any ac stabilized electrode. The low cost single phase machine is offered with a wide variety of factory installed optional equipment which can be added if the need exists. It has a 230/460-v ac primary. • **Westinghouse Electric Corp.**, West-ing-arc Dept., Box 2025, Buffalo, N. Y.

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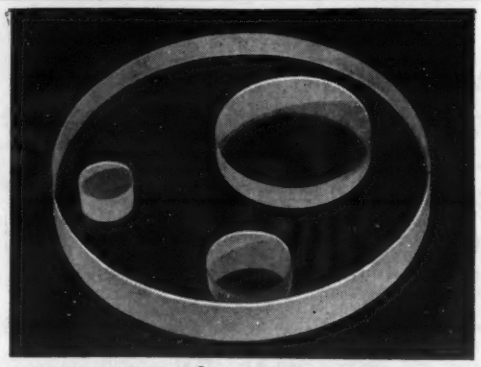

NOW! Swift Sight Glasses
With Holes Up To 2" In Diameter

You can now order Swift Sight Glasses with holes from 1/8" to 2" in diameter . . . in nine thicknesses (from 1/8" to 1 1/4") . . . **in any shape** . . . and in sizes up to 24" by 60" (limited by size of the Pyrex glass). Standard shapes always available for immediate shipment.*

Swift Glasses are precision-ground from Pyrex Polished Plate Glass . . . they won't cloud or pit . . . resist all chemicals but HF and caustic soda solutions.

***A point to remember:** you can take care of **all** your sight glass needs **at one time,** with a single order to Swift.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

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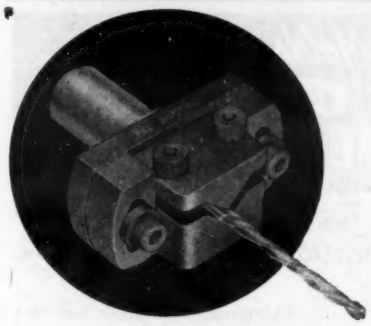

in half the time

Brookfield Tool Holders
make tool set-ups easy!

Now, without bushings or collets, on the first try you can set up drills, counterbores, reamers or cutters for almost any machining operation. Precision ground V-jaw vises, Brookfield Tool Holders make even toughest set-ups a cinch. With one wrench, insert the tool, tighten the jaw, then float the tool into dead center position and tighten. It's as easy as that!

FREE! *Descriptive illustrated brochure, plus price and specification lists.*

BROOKFIELD, INCORPORATED
STOUGHTON 114, MASSACHUSETTS

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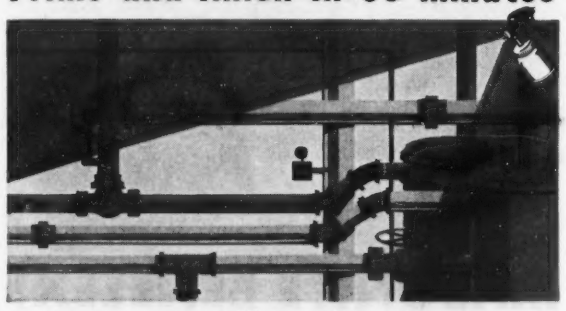
Prime-and-finish in 90 minutes



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SPRAY RHINAMEL

Inside or out, Tropical Spray RHINAMEL provides heavy-duty protection for years. Sprays smoothly, easily on wood or metal. Primes, finishes and dries in 90 minutes. Forms a hard, durable, glossy finish. For fast, economical repainting of machinery and equipment of all kinds, use Tropical Spray RHINAMEL! Write for detailed information, today!

Also RHINAMEL . . . *reinforced with Bakelite!* A rugged, hard-gloss, lasting finish. In 30 colors for brush application.

PARKER RUST PROOF PRODUCTS

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

TROPICAL PAINT COMPANY
1124-1268 W. 70th, Cleveland 2, Ohio
SUBSIDIARY OF PARKER RUST PROOF COMPANY

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Here's The New! HOFFMAN Diamond Segmented SAW BLADE

Fast, Accurate Cutting Through Most Of The Hardest Abrasive Materials Known.

Saws hardest concrete, sandstone, granite, marble, silica brick, monofrax, zac block and many others. Recommended operation assures long life and increased production savings. Available with 14 different cutting edge bonds for top performance in any material.

Write for Illustrated Literature and Prices—FREE

HOFFMAN BROS. DRILLING CO.
106 Cedar Street Punxsutawney, Pa.

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Ruggedly built for tough in-plant loads

Salem-Brosius' Phillips-designed heavy-duty trailers are built to take a beating. They are designed to safely and economically haul forgings, castings, ingots, slabs, plate, coils and other products requiring in-plant handling.

Designed in load-handling capacities from 6000 to 600,000 lbs, Phillips trailers feature front and rear axle fifth wheels for better steering, articulated axles, Timken wheel bearings, solid or pneumatic tires, and 4, 8, or 16-wheel models. They may be used singly or in trains. Write for further information.

Ask about rugged Phil-Dumps. They dump automatically, stack, and handle easily with lift truck.

Phil-Boxes are excellent for carrying and storing heavy materials. They stack and easily collapse.

Salem-Brosius, Inc.
PITTSBURGH, PENNSYLVANIA

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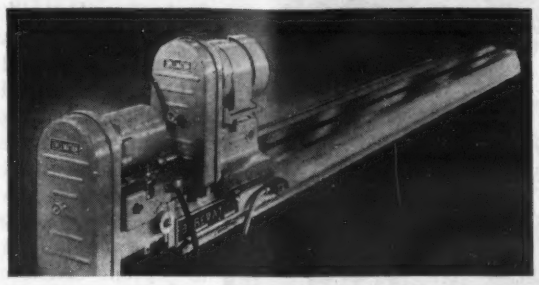
GUN DRILLING UNIT
produces 3 x 60-in. holes

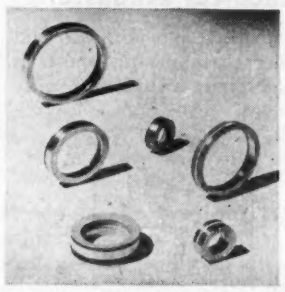
Extremely long, precision holes are produced by the Boremation Sixty gun drilling and boring power unit, drilled from the solid in one pass, on a production



schedule. By using a combination of high spindle speeds synchronized to an extremely fine feed rate, holes ranging up to 60 in. long with diameters to 3 in. can be drilled. Infinitely variable feed rates obtained by a positive drive mechanical transmission range from 0.0001 to 30 ipm. Spindle speeds range to 10,000 rpm. • **Drillmation Co.**, 6500 E. 11 Mile Rd., Center Line, Mich.

▲ For more details circle NED-727 K on enclosed inquiry slip ▲

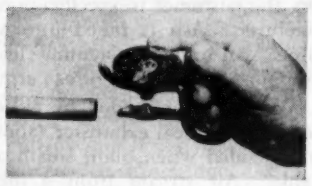
POLYMER SHAFT SEAL
for high pressure liquid, gas use



Reciprocating and low speed rotary shafts under liquid and gas pressure conditions up to 10,000 psi are served by this spring-loaded, self-conforming polymer seal. Seated around a shaft, it sets up a load toward the shaft, with its polymer gasket deforming under constant pressure to produce a gas-tight seal. Applicable temperature range is −320 to 500° F. Seal is self-adjusting to creep and wear. • **Arrowhead-Puritas Waters Inc.**, Del Mfg. Div., 1005 S. Central Ave., Los Angeles 21, Calif.

▲ For more details circle NED-728 K on enclosed inquiry slip ▲

TUBE WALL MICROMETER
one-hand model has ½-in. capacity

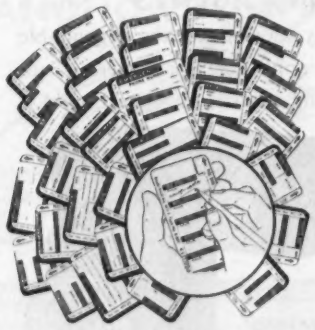


Finger-operated dial spins closed quickly to adjust this micrometer for measuring tube wall thickness. Operated with one hand, it leaves the other hand free to steady the tubing. The dial is graduated in 0.001 in. and has large, easily read numbers. A spherical headed lower anvil screw, adjustable for wear, fits flush against the inside wall of the tube. An adjustable dial pointer simplifies measurement of duplicate tubes. Nickel plated cast manganese bronze micrometer has a ½-in. capacity, and can be inserted up to 1 in. in ½-in. or larger tubing. A 1-in. capacity model is available on special order. • **Haines Gauge Co.**, Henderson & Shoemaker Roads, King of Prussia 48, Pa.

▲ For more details circle NED-729 K on enclosed inquiry slip ▲

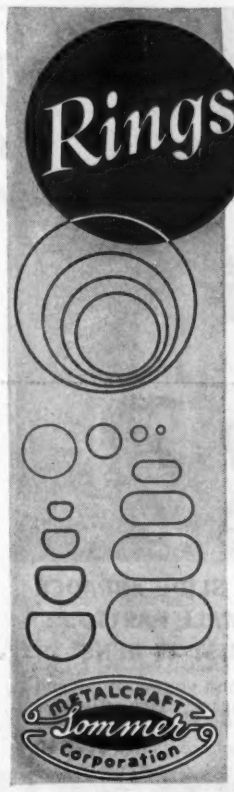
WRITE-ON LABELS
over 100 stocked types offered

Specific data can be filled in on these self-sticking Write-On labels with ballpoint pen, pencil, typewriter, or rubber stamp. Label is applied on-the-spot where data is most needed.



Over 100 different preprinted stock labels are available for property identification, instrument calibration, fire extinguisher marking, panel identification, inventory control, and many other applications. Once data is entered on the label, it can be easily removed from the dispenser card and applied to any clean, dry metal, glass, wood, ceramic, or plastic surface. B-500 vinyl cloth, B-184 soft aluminum foil, and B-770 paper label materials are offered in sizes from ⅝ x 1½ in. to 2¼ in. square. • **W. H. Brady Co.**, Dept. 131, 727 W. Glendale Ave., Milwaukee 9, Wis.

▲ For more details circle NED-730 K on enclosed inquiry slip ▲



Rings ... one of many wire products we make

Let Sommer solve your ROUND wire ring problems—including ring assemblies such as fan guards, grills, etc. Butt-welded and unwelded rings are our specialty.

Any gauge of wire up to ¼"—any sizes up to 24" in diameter, Sommer's modern, high-production equipment assures close-tolerance job specifications. Complete facilities for making "D" and oval rings as well.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome, and mill finishes.

Let us work with you in designing and producing any wire shapes or forms you require. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▲ For more details circle NED-731 K on enclosed inquiry slip ▲

how "safe" are your safety cans?

HERE ARE 7 WAYS TO JUDGE FOR YOURSELF!

1. **Is Construction Leakproof?** Seams that are lap-joined and electrically welded into durable "one-piece" construction are capable of holding up under rough, rugged service.
2. **Are There Double Wall Flame Arresters?** Two walls of perforated metal provide a durable double barrier to prevent fire. If inner wall is damaged, outer wall provides protection until unit is replaced.
3. **Is Spout Seal Leak Proof?** Spring operated caps with ball and socket joint assembly assure uniform, self adjusting, liquid-tight seal of the special leak-resistant gasket.
4. **Is Fill Spout Mechanically Joined?** Spout will withstand strain of repeated opening and closing if clinched and soldered to top section of can.
5. **Is Bottom Protected?** Bottom of cans are protected from damage if they are raised up into can, allowing a protection rim around the base.
6. **Does Dispensing Valve Shut Off Quickly?** Convenient hand operation gives fast, positive control while pouring. Instantly shuts when pressure is released.
7. **Is Handle Design Protective?** Handles with a shock guard shield and protects dispensing lever against accidental opening from shocks or bumps.

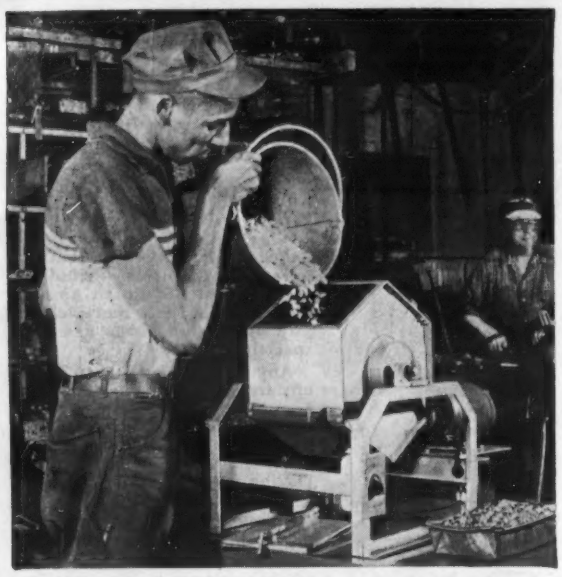
Now—investigate Protectoseal Safety Cans—they have all the above features built in and include many additional design and operating features to provide optimum safety and service.

Compare Protectoseal Safety Cans with any other safety cans and you will see why Protectoseal Products are the quality standard of the industry, and definitely your best buy.

For the correct Safety or Storage can to meet your individual needs, consult the Protectoseal Flammables Engineer in your area, or write for your copy of the new catalog of Protectoseal Safety Equipment.

THE PROTECTOSEAL COMPANY
1969 South Western Avenue • Chicago 8, Illinois

▲ For more details circle NED-732 K on enclosed inquiry slip ▲



NEW, LOW COST HANDEE SLIDE-ABRADER BARREL FINISHES SMALL PARTS, PAYS FOR ITSELF IN JUST 15 RUNS!

Precision down to a micro-inch finish on production and experimental jobs. Portable, compact, weighs 63½ lbs. 2-speed drive, ¼ HP, 18 and 24 RPM. Barrel Capacity ¾ cu. ft. Drum dia. 13". Write for brochure. **Price $198.50**

CHICAGO WHEEL & MFG. CO. • 1101 W. Monroe, Chicago 7 • Dept. ED-10

For more details circle **NED-736 K** on enclosed inquiry slip

CRANE RUNWAY MATERIAL

from one dependable source

PER-FIT CRANE STOPS • CRANE RAIL CLIPS
HOOK & ANCHOR BOLTS • SPLICE BARS
CRANE RAIL-12# THRU 175#

For prompt estimates, and free copy of Industrial Rail Catalog NE-10 write
L. B. FOSTER CO.
Pittsburgh 30, New York 7, Chicago 4, Houston 2, Los Angeles 5, Atlanta 8, Cleveland 35.

Faster From Foster
Rail • Piling • Pipe, Valves, Fittings

For more details circle **NED-737 K** on enclosed inquiry slip

...eliminate costly errors save time, speed shipments ...prevent warehouse and stockroom confusion

COLOR CODE *your inventory with* AVERY

pressure-sensitive labels

For faster coding and price marking, for inventory control, for bin and shelf marking, for instant dating and identification of contents – by quality, type, size or quantity – wherever there's need for a label – AVERY pressure-sensitive LABELS do it best! They stick to all types of surfaces – glass, plastic, metal, wood, film, and paper. There's no moistening, no mess, no fuss. Two types of labels – AVERY Kum Kleen LABELS can be easily removed, if need be... AVERY Perma-Grip are on securely and PERMANENTLY!

25th Anniversary 1935-1960

Avery's manual or automatic dispensers will help you obtain fast, clean and economical labeling. Write for details.

☐ Please send me free samples and details on AVERY color coding.

☐ Tell me more about Avery Label Dispensers.

AVERY LABEL COMPANY Div. 102
117 Liberty St., New York 6
608 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif.

Name_____
Company_____
Street_____
City_____ Zone____ State____

✱ Have you seen Avery's new pressure-sensitive Metallics for decorative trim, panels and identification plates?

For more details circle **NED-738 K** on enclosed inquiry slip

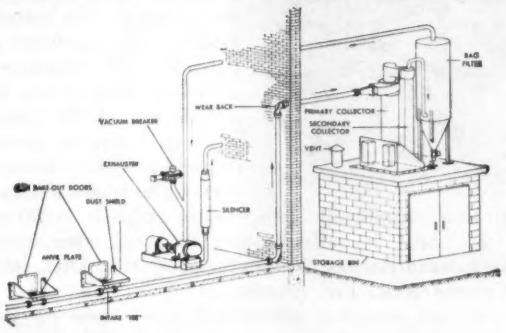
SAFETY LIFT HOOK swivels on attaching bolt

Safer load maneuverability is achieved with the heavy-duty J. & J. safety lift hook with built-in swivel feature. Used with overhead cranes for handling large dies and other heavy objects, hook swivels on the attaching bolt. Hook revolves on bushing to prevent excessive wear and stress on bolt body and threads, as well as possible fracture of sling chains and cables against sharp edges of dies. Bolt thread is also self-cleaning. Hooks offered in 3, 6, 9, and 15-ton capacities are proof-tested to twice these ratings before shipment. Prices range from $39 to $92. • Mentor Products, Inc., Mentor, Ohio.

For more details circle **NED-739 K** on enclosed inquiry slip

ASH REMOVAL SYSTEM for small coal burning plants uses steam jet or mechanical exhauster

Packaged Econo-Ash system for the removal of ash and flyash from two to four-boiler coal burning plants is usually installed by the small plant owner with only



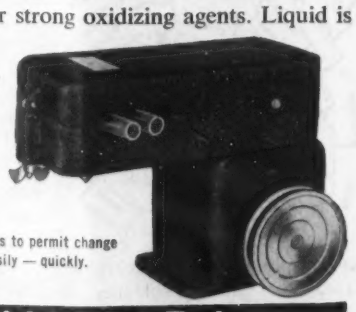
minor structural changes. All equipment except the tube are factory assembled, tested, and shipped ready for installation. The storage bin is usually constructed by the customer to specifications supplied by the manufacturer. Ash is raked into an opening in the pipeline. An optional vacuum cleaning attachment can be supplied for cleaning areas around the boiler.

Vacuum is provided by either a steam jet exhauster or a mechanical exhauster (shown). The former is recommended when plant steam of 50 psi or over is available. Air stream from a mechanical exhauster discharges into a primary and secondary collector and passes into the atmosphere through a bag filter and silencer. • Allen-Sherman-Hoff Co., 259 E. Lancaster Ave., Wynnewood, Pa.

For more details circle **NED-740 K** on enclosed inquiry slip

NOW A LOW COST METERING PUMP FOR SULPHURIC ACID AND OTHER STRONG OXIDIZING AGENTS

Now a special formulation of Hypalon makes the dependable SIGMAMOTOR Pump applicable for metering sulphuric acid or other strong oxidizing agents. Liquid is forced through Hypalon tubing by wave-like action of steel fingers. Never contacts metal.



Model T6SH opens to permit change of tubing easily — quickly.

SIGMAMOTOR Inc.
33 NORTH MAIN STREET • MIDDLEPORT, NEW YORK

For more details circle **NED-741 K** on enclosed inquiry slip

Metron BANTAM SPEED REDUCERS

- Complete!
- Compact!
- Adaptable!

The New Bantam combines power capacity and toughness with small size.

130 oz./in. output torque
Speeds up to 10,000 RPM input
Sealed oil bath lubrication
Available in 642 STANDARD ratios
Coaxial shafts for in-line construction
½ ACTUAL SIZE
Quick delivery — 1 or 1000 units

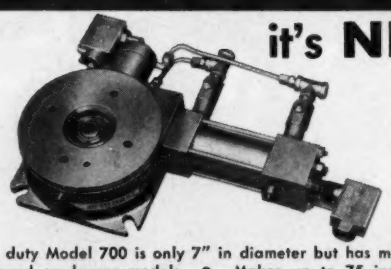
Save design, production, and assembly costs by using ready-to-go Bantams as package components in your product.

Write for Data Sheet 10 and 11 for details

Metron INSTRUMENT COMPANY
436 Lincoln St. • Denver 3, Colorado

For more details circle **NED-742 K** on enclosed inquiry slip

LOW COST 7" INDEX TABLE it's NEW



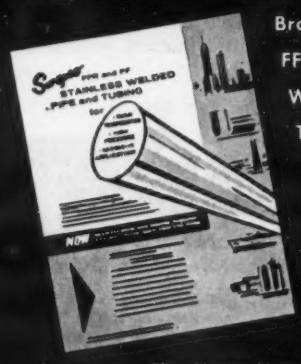
The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

WRITE NOW FOR FREE CATALOG AND PRICE INFO.

AIR-HYDRAULICS INCORPORATED
231 HUPP AVE.
JACKSON, MICHIGAN

For more details circle **NED-743 K** on enclosed inquiry slip

Free!



Brochure on the new FFR and FF Stainless Welded Pipe and Tubing for High Temperature, High Pressure and Corrosive Applications.

The Major Manufacturer of Welded Large Diameter Pipe and Tubing.

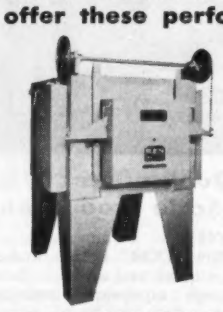
Swepco TUBE CORPORATION
ONE CLIFTON BOULEVARD
CLIFTON, NEW JERSEY

For more details circle **NED-744 K** on enclosed inquiry slip

SOLVE HEAT-TREATMENT PROBLEMS

for Glass, Steel, Aluminum, Ceramics, Chemical Processing

ONLY TRENT BOX TYPE FURNACES offer these performance advantages:



- Controlled, Uniform Clean Heat to 2300°F.
- Operate from Standard Voltages
- Standard Switches and Controls
- Require No Transformers
- TRENT "Folded and Formed" Electric Heating Element

THE HEATING ELEMENT MAKES THE DIFFERENCE!

Surface of continuous "Folded and Formed" ribbon type element faces the work chamber—gives up to *4 times the radiating area* per given cross section of ordinary types! Let TRENT engineers study your needs to determine the efficient and economical solution to your heating problems.

Write for Bulletin 75-TD

TRENT INC.
Electrically Heated Industrial Equipment

251 Leverington Ave., Philadelphia 27, Pa.
In Canada
Pioneer Electric Eastern Ltd., Toronto

▲ For more details circle NED-745 K on enclosed inquiry slip ▲

LERMER PLASTIC CONTAINERS

Exceptional printing makes the difference...

Helps make the sale!

- Printed or decorated up to 4 colors on crystal clear, transparent or opaque colors
- Largest line of RIGID plastic containers
- 1/5 the weight of glass—greatly reducing ever-increasing shipping and handling costs
- Lightweight and shatterproof—with rigid wall protection
- Economical—with customer re-use value
- Also made of new high density polyethylene—Poly-Opal*. Are chemically inert, stain resistant and have lower permeability to moisture and gases than conventional polyethylene.

*T. M.

Write for full-color catalog, samples and prices.

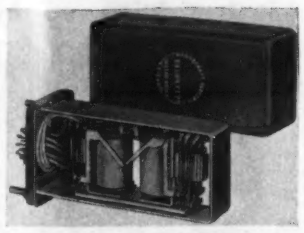
LERMER PLASTICS, INC.

514 South Avenue
Garwood, New Jersey

PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

▲ For more details circle NED-746 K on enclosed inquiry slip ▲

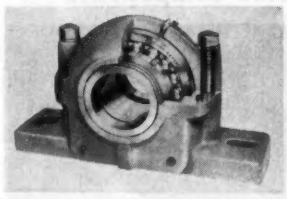
MINIATURE LATCH-IN RELAY
with plug-in or solder terminals



Requiring only 2 1/16 x 1½-in. panel space, Class 11LHS miniature latch-in relay consists of two relays mounted together. Their armatures are mechanically interlocked so that energizing one latches it in and releases the other. Coils and contact mechanisms are independent. Operating voltages, currents, or contact arrangements of each can be entirely different. They are available hermetically sealed or with removable cover for continuous or intermittent dc duty with up to 4 form C's per relay, or for intermittent ac duty with up to 2 form C's per relay. They are furnished with miniature solder terminals with up to 27 pins or with miniature plug-in headers having up to 20 pins. • **Magnecraft Electric Co.**, 3359K W. Grand Ave., Chicago 51, Ill.

▲ For more details circle NED-747 K on enclosed inquiry slip ▲

PILLOW BLOCKS
with spherical roller bearings



High radial and thrust load capacities and low torque are combined in the self-aligning spherical roller bearings used in 143 sizes of heavy duty pillow blocks. Series SAF has two bolts clamping the cap to the base, and Series SDAF uses heavier castings and four cap bolts. All sizes are available for shouldered shaft mounting or mounting on straight commercial shafting. Split housing seats are machined to bearing widths plus ⅜ in., enabling use as a floating or fixed unit. Design accommodates grease or oil bath lubrication and is easily adapted to circulating or oil-air mist systems. Triple seals retain lubricant and keep out dirt. Pillow blocks are made for shaft diameters from 1 15/16 to 8¾ in. • **Torrington Co.**, Bantam Bearings Div., 3702 W. Sample St., South Bend 21, Ind.

▲ For more details circle NED-748 K on enclosed inquiry slip ▲

Marking & Sealing Shipments

Marsh Stencil Machine Co.—Catalog M-60 contains 24-pages of data and guidance on equipment and procedures for marking and sealing shipments. Described are such items as stencil cutting machines, fountain brushes, stencil inks, stencil roller, markers, and electric tape dispensers. Included is a large wall chart listing marking rules of common carriers. Weights and measures, conversion equivalents, export data, military specs, and other information for shippers are included.

▲ For more details circle NED-749 K on enclosed inquiry slip ▲

PRETESTED HOLDING POWER

USE DIAMOND DHD® HAMMER DRIVE ANCHORS

Forged Aluminum Anchor and Hot Galvanized Nail Assembly. Size range: 3/16" to 1/2" dia. — 7/8" to 3½" length.

Where holding power counts . . . use this expansive anchor . . . for all kinds of masonry

- Nail Type
- Vibration Proof
- Rust Proof

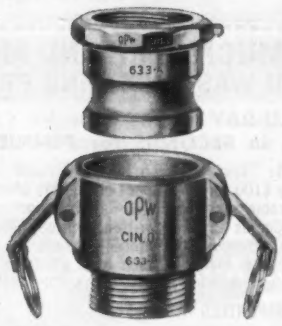
Only 3 steps to install in 20 seconds, 3/16" x 7/8" size

TRIAL OFFER: Write for catalog sheet and trial samples.

DIAMOND EXPANSION BOLT CO., INC.
GARWOOD, NEW JERSEY

▲ For more details circle NED-750 K on enclosed inquiry slip ▲

SAVE TIME
WITH KAMLOK QUICK COUPLERS



You save production time . . . when you replace time-wasting hose and pipe connections with Kamlok Quick Couplers. No tools needed. Your operator can do the job himself. Just fit together and pull the two cam arms down. Use them wherever your hose or pipe connections are periodically uncoupled (once a week or oftener). We probably have one to fit your needs. Why not send for more information? Inquiries are invited.

Fastest — safest — surest couplings known.

OPW-JORDAN 6013 Wiehe Road Cincinnati 13, Ohio

▲ For more details circle NED-751 K on enclosed inquiry slip ▲

A. W. ALGRIP abrasive flooring

Bits of food fall on the floor of this food processor's freezer, but A. W. ALGRIP eliminates slipping and sliding . . . helps prevent accidents.

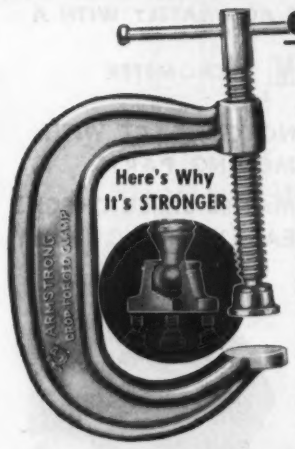
A. W. ALGRIP is produced by Alan Wood Steel Company under a patented process by which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

▲ For more details circle NED-752 K on enclosed inquiry slip ▲

New ARMSTRONG Swivel Pad can't come off



Now ARMSTRONG deep throat "C" Clamps have the new (Pat. apd. for) ARMSTRONG Ball-joint Swivel Pad. This "C" Clamp pad, developed by ARMSTRONG Engineers, is tougher than any on the market. Rigorous testing in our own plant first proved this fact, and field tests in factories throughout the country have confirmed our own test results.

The lip of the opening in the ARMSTRONG Ball-joint Swivel Pad is undercut so that when the ball of the screw is inserted, and the lip is permanently forced down, a solid steel wall is formed, inside the pad cavity, completely encircling the ball.

This wall of steel makes it impossible for the pad to come off the screw during normal use. In fact, our tests have proved that it is virtually impossible to intentionally knock the pad off with a hammer—yet the pad is free to swivel through an arc of approximately 40°.

Call your ARMSTRONG Distributor

Your ARMSTRONG Distributor can offer delivery from stock on this "400-Series" deep throat, drop-forged "C" Clamp with the new Ball-joint Swivel Pad. He also carries in stock the other styles of clamps in the ARMSTRONG Line—the broadest line of drop forged "C" Clamps.

ARMSTRONG BROS. TOOL CO., 5245 W. ARMSTRONG AVE. CHICAGO 46, ILLINOIS

▲ For more details circle NED-753 K on enclosed inquiry slip ▲

FOR FAST ACTION SEND COUPON ON CARD OR LETTERHEAD

To: REPRODUCTION ENGINEERING CORPORATION
700 Westbrook Road, Essex, Connecticut
☐ I want Blu-Ray demonstration ☐ Rush brochure
Name Title
Company
Street
City and State

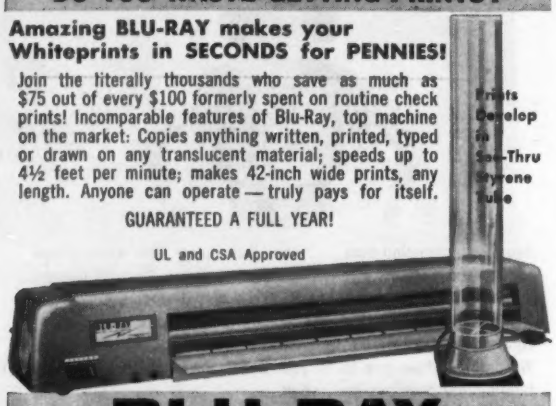
HOW MUCH TIME AND MONEY DO YOU WASTE GETTING PRINTS?

Amazing BLU-RAY makes your Whiteprints in SECONDS for PENNIES!

Join the literally thousands who save as much as $75 out of every $100 formerly spent on routine check prints! Incomparable features of Blu-Ray, top machine on the market: Copies anything written, printed, typed or drawn on any translucent material; speeds up to 4½ feet per minute; makes 42-inch wide prints, any length. Anyone can operate — truly pays for itself.

GUARANTEED A FULL YEAR!

UL and CSA Approved

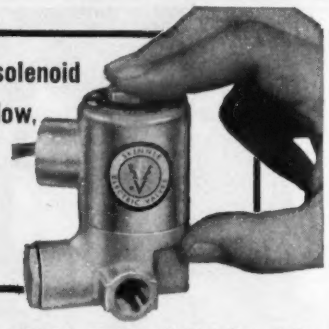


BLU-RAY

3 LAMPS FOR MORE SPEED • FINGER-TIP SPEED CONTROL • MAKES SEPIA REPRODUCIBLES

▲ For more details circle NED-754 K on enclosed inquiry slip ▲

SKINNER 2-way solenoid valves for high flow, high pressure applications



These two-way solenoid valves handle high flow of air, oil, water, inert gases and other media under high pressure in industrial and commercial applications. They are available to meet the following specifications:

Type—Two-way normally closed, and normally open
Orifice Size—¼" diameter
Cv Factor—.758
Pipe Size—¼" NPTF (Dry Seal)
Minimum OPD—5 PSI
Maximum OPD—R2—normally closed—200 PSI AC or DC service
R2H—normally closed—1250 PSI for AC service; 500 PSI for DC service
R2H6—normally closed—1000 PSI for DC service
RP1—normally open—150 PSI AC or DC service
Temperature Range—Minus 40°F to plus 180°F
Voltage—Most AC and DC voltages and frequencies
Leakage—Bubbletight
Internal Parts—Stainless Steel
Body—Forged naval brass

For complete information, contact a Skinner Distributor listed in the Yellow Pages or write us at Dep't. 430.

SKINNER ELECTRIC VALVES

THE CREST OF QUALITY SKINNER ELECTRIC VALVE DIVISION, THE SKINNER CHUCK COMPANY • NEW BRITAIN, CONNECTICUT, U.S.A.

▲ For more details circle NED-755 K on enclosed inquiry slip ▲

IS MACHINE SPEED IMPORTANT?

CHECK RATED SPEEDS ACCURATELY WITH A FRAHM TACHOMETER

• NO CONTACT WITH MOVING PARTS
• MAKES SPEED CHECKS EASILY AND QUICKLY

ACCURATE

Guaranteed better than ½ of 1% of measured speed. Unaffected by ordinary temperature changes, by stray magnetic fields, or by the position in which it operates.

DURABLE

No moving parts to wear or be lubricated—not injured by overspeeding—no maintenance.

DEPENDABLE

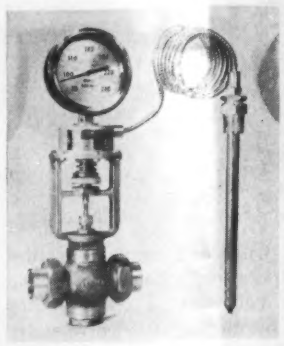
The inherently stable steel reeds will operate indefinitely under normal conditions with no discernible drift in natural frequency.

Write for BULLETIN 31D

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

▲ For more details circle NED-756 K on enclosed inquiry slip ▲

TEMPERATURE REGULATOR features separate sensing system



Direct - indicating thermometer of the Type S thermostatic temperature regulator is a remote reading type and an entirely separate system with sensing element located inside the bulb. Regulator is furnished in ¼ to 2-in. sizes with a 30 to 240° F range thermometer. Standard operating ranges are 100 to 140, 120 to 160, 140 to 180, 160 to 200, and 180 to 220°F. Other 40° increment ranges are available between 100 and 220° F. Copper bulb measures ¾ in. diameter by 12 in. long, with 8 ft of capillary tubing. Single and double seat, direct or reverse acting valves; balanced single seat valves; and three-way valves are available. • Lawler Automatic Controls, Inc., 453 N. MacQueston Parkway, Mt. Vernon, N. Y.

▲ For more details circle NED-757 K on enclosed inquiry slip ▲

SHOCK TEST MACHINE for small electronic components

Specimen loads up to 30 lb are handled by the SM-005 shock test machine which produces shock pulses for testing electronic components. The 3000-g, 0.2 - millisecond shock pulse required by MIL-S-19500B is possible. The specimen carriage is connected to a pneumatic cylinder and is raised and propelled downward by discharge of air. Features of the 46-in. high machine include one-hand height control adjustment, automatic brake, recycling selector, pressure valve setting for G-level, and two-hand actuation requirement. Drop height of 7 in. with air pressure of 80 psi develops an impact velocity of 192 in. per second, equivalent to a 4-ft free-fall drop. • Avco Mfg. Corp., 201 Lowell St., Wilmington, Mass.

▲ For more details circle NED-758 K on enclosed inquiry slip ▲

Reinforced Stair Building

American Stair Corp., Stairbuilders Div.—8-page A.I.A. File No. 14-D is descriptive of a system of prefabricated metal forms for making reinforced concrete stairs. Forms are supplied complete with metal riser fronts; reinforcing and temperature rods; and plate, channel, or exposed stringers all welded into a one-piece unit. Design data are included.

▲ For more details circle NED-759 K on enclosed inquiry slip ▲

Look beyond "first-cost" in buying broaching tools

Machine, fixturing and all broaches shown were designed and built by Sundstrand-American Broach.

It doesn't pay to take chances when buying broaching tools. Original cost of the broaching tools can be actually a minor factor in determining machining cost per piece.

Because Sundstrand-American broaches are backed by the experience of building machines, fixtures and tools for every type of broaching job — you get the benefits of "extra" skills that insure closer tolerances, better surface finishes, higher production rates and more pieces per sharpening. It's easy to prove these benefits on your own job. Just send your specifications and part prints to address below.

GET MORE FACTS by writing for your copy of Bulletin A-462 "Practical Broaching Methods" today.

SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN

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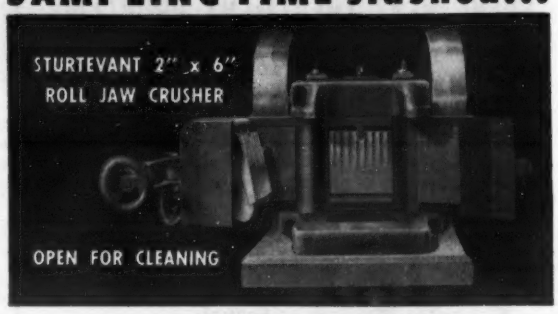
SAMPLING TIME slashed...



... by Small-Scale Duplication of Full-Scale Production!

12-PAGE BULLETIN PROVES IT!

SEE how exclusive "OPEN-DOOR" design makes cleaning and maintenance quick and easy . . . how rugged construction keeps equipment running round the clock for years.

COMPARE the capacities and performance of Sturtevant Roll Jaw Crusher, Crushing Rolls, Swing Sledge Mills and Sample Grinder with what you are now using.

LEARN why the "blue chips" in industry and education prefer Sturtevant Laboratory Equipment.

WRITE FOR 12-PAGE BULLETIN on Sturtevant Laboratory Equipment and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to lower operating costs over more years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

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HOW MUCH IS half a furnace WORTH?

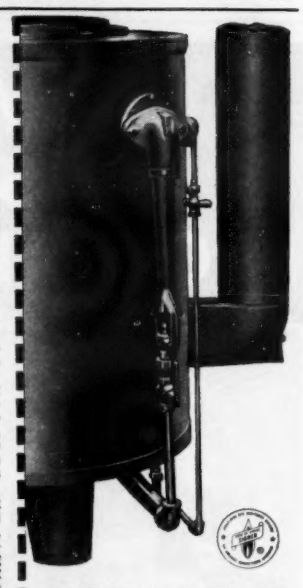
BUZZER REG. U.S. PAT. OFFICE

INDUSTRIAL FURNACES using only low pressure gas give you Full-Value, Fully "Packaged" Venturi Units for every metal working service.

NO BLOWER NEEDED
NO ELECTRICAL POWER
JUST CONNECT TO GAS SUPPLY

Why buy half a furnace? When you uncrate an ordinary unit, you get something like a car without the engine. You need in addition: 1. a costly blower, tools, electrical and other installation contractors, plus maintenance; 2. electrical power, wiring, transformers, surge controls; 3. shop noise suppressors and special remote locations; 4. extra safety precautions due to complex heating systems.

When you specify "BUZZER", you get the whole "packaged" furnace, all ready to connect to your gas supply, all ready to operate. "BUZZER" modern, gas-fired heat treating and melting furnaces give you the quietest, most reliable metal working units available . . . operative during power shut-downs . . . completely self-contained, nothing to add except the profits from increased production and savings from maintenance-free operation. Standard and special furnaces available.



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Write Today for Complete "BUZZER" Catalog No. 1570A

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BAldwin 3-1110 — Established 1911
157 SOUTH GRAND AVENUE, BALDWIN, L. I., N. Y.
"BUZZER" Burners & Furnaces for Heat Treating, Melting, Soldering

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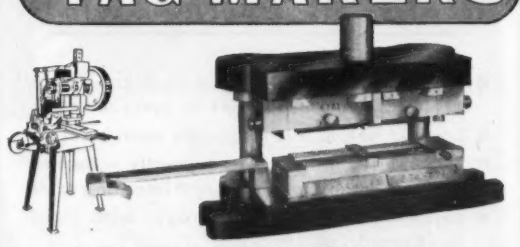
GTS STAMPED OR EMBOSSED •TAG MAKERS



MAKES COMPLETE (MARKED) TAG EACH PRESS STROKE

1. MARKS
2. PIERCES
3. SHEARS STRIP STOCK

GTS Stamped or Embossed Tag Makers are built to your tag requirements, with these features: Quick-setting, interchangeable steel type . . simply dropped into recesses of drawer style chase. Any character size you want. Built to run any amount, whenever needed. GTS design and quality, experience proved.

COMPLETE DETAILS SENT TO YOU UPON REQUEST

Phone: EAstgate 7-0300

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine, Chicago 13, Ill.
IF IT'S WORTH MAKING, IT'S WORTH MARKING

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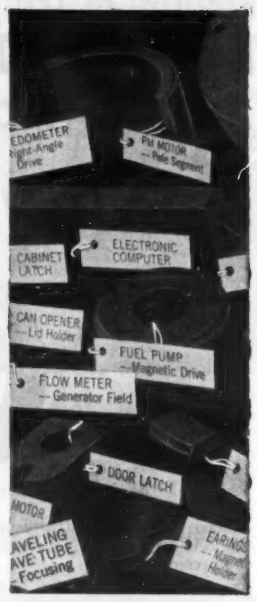
UNUSUAL MAGNETS for UNUSUAL JOBS



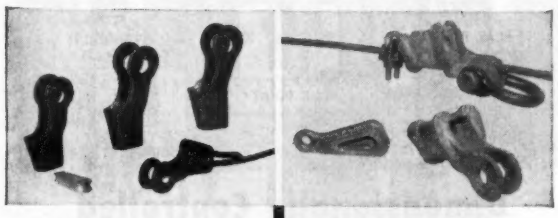
This basic new ceramic material—not a substitute for conventional magnets—allows magnetism to be applied in new and better ways . . . at low cost . . . to hundreds of old and new products. See how many ideas they can spark for you by writing for Ceramagnet Bulletin RC-12A.

STACKPOLE CARBON CO., *St. Marys, Pa.*

STACKPOLE *Cera*MAGNET®

For more details circle NED-764 K on enclosed inquiry slip

WIRE ROPE FITTINGS



OPEN WEDGE SOCKETS

the harder the pull the tighter the hold

OPEN WEDGE SOCKETS—especially easy to attach. Simply bend cable around wedge, insert in socket and pull tight. Wedge can be quickly removed with light hammer and drift pin. Sizes for ⅜" to 2" rope. Orders for special sizes receive prompt attention.

CONTINUOUS CABLE CLAMPS

the easy way to attach a load to a line

CONTINUOUS CABLE CLAMPS—Quickly attach or remove a load from any place on a continuous cable. Used for car pulling, barge moving, rigging or any job where a load must be connected to the line.

Manufactured for rope sizes from ⅜ to 1¼ inches.

ASK FOR BULLETINS 164 AND CC-2

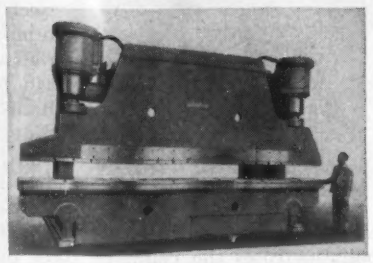
SAUERMAN BROS., Inc.

646 S. 28th AVENUE, BELLWOOD, ILLINOIS • Linden 4-4892

For more details circle NED-765 K on enclosed inquiry slip

HYDRAULIC PRESS BRAKE

650-ton unit can be started, stopped, and reversed at any point in stroke



Powered by two hydraulic cylinders, the 650-ton Steelweld hydraulic press brake with over-all bed length of 20 ft 3 in. can be started, stopped, or reversed at any point in its adjustable 16-in. stroke. Ram can thus be inched to work and backed away whenever desired. Bed extends 36 in. below floor for minimum deflection in deep bending and drawing work.

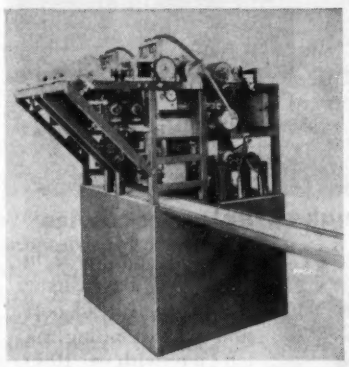
Ram approach and return is at 90 ipm; half-tonnage pressing is at 45 ipm; and full-tonnage pressing is 22 ipm. By turning a knob, operating pressure can be changed to suit work. Ram remains level or at any set taper regardless of where work is placed along the bed. Either end of ram can be tapered as much as ⅛ in. per foot of ram length. Press cannot be overloaded or damaged—it simply stops, then is backed away immediately.

Capacities to 2000 tons are available for bending mild steel from 10 gage to 2 in. Lengths range to 30 ft. • **Cleveland Crane & Engineering Co.**, Steelweld Machinery Div., 1143 E. 283rd St., Wickliffe, Ohio.

For more details circle NED-767 K on enclosed inquiry slip

AUTOMATIC PACKAGER

forms and fills pouch containers with liquids, creams, and pastes



Pouch type containers of Cellophane, foil, Pliofilm, polyethylene, or laminated combinations are formed, filled, and sealed by the Model LF-60 automatic filling machine. Designed for liquids, creams, and pastes, it has two independently operated packaging stations and a variable speed of 15 to 36 strokes per minute. With each station producing a cluster of four packages, production is 120 to 288 packages per minute.

Virtually any combination of single or cluster packages in a 1 to 12-in. length and ¼ to 8½-in. width range can be produced. Die and tooling changes are made at low cost. Machine measures 44 x 48 x 78 in. and operates on 115-230 v, 60 cycles, single phase. It can be adapted to other requirements, including dry material packaging. • **Speedway Machine & Tool Co.**, 1802 N. Luett St., Indianapolis 22, Ind.

For more details circle NED-768 K on enclosed inquiry slip

YOUR GOOD PRODUCT DESERVES TO BE SHIPPED with THE PROPER MARK

MARKING RULE 6 says: freight must be stenciled or otherwise durably and plainly marked.

DURABLY means in a durable manner; lasting in spite of hard wear or frequent use. (You get durability with D-B ROL-IT-ON stencil inks.)

PLAINLY means easy to read. The marking should be as large as possible. (There is a D-B stencil machine in a letter size to meet your every marking need.)

FOR FURTHER INFORMATION WRITE . . .

DIAGRAPH-BRADLEY INDUSTRIES Inc.
P. O. BOX 269 HERRIN, ILLINOIS
DISTRIBUTORS IN ALL PRINCIPAL CITIES

For more details circle NED-769 K on enclosed inquiry slip

MILLER'S NEWEST!

Gasoline Engine Driven AC/DC Welder/Power Plant

Model AD-225-L

A-C or D-C WELDING. The AD-225-L produces 300 amperes at 30 volts a-c or 225 amperes at 30 volts d-c—both at 100% duty cycle. Ample open circuit voltage gives superior results with a-c, d-c or a-c/d-c electrodes.

A-C POWER PLANT. As an a-c power plant, this model produces 7 KW of 115/230v single phase 60 cycle current.

METALLIC INERT GAS WELDING. Using the d-c side of the AD-225-L, and with new style hand guns feeding small diameter wire from spools, aluminum, mild or stainless steel may be welded by the MIG process. Power for the gun is provided by the 115 volt d-c outlet.

AUXILIARY D-C POWER. While welding, the AD-225-L delivers 1 KW of 115v d-c which is ample for operation of flood lights, power tools, etc.

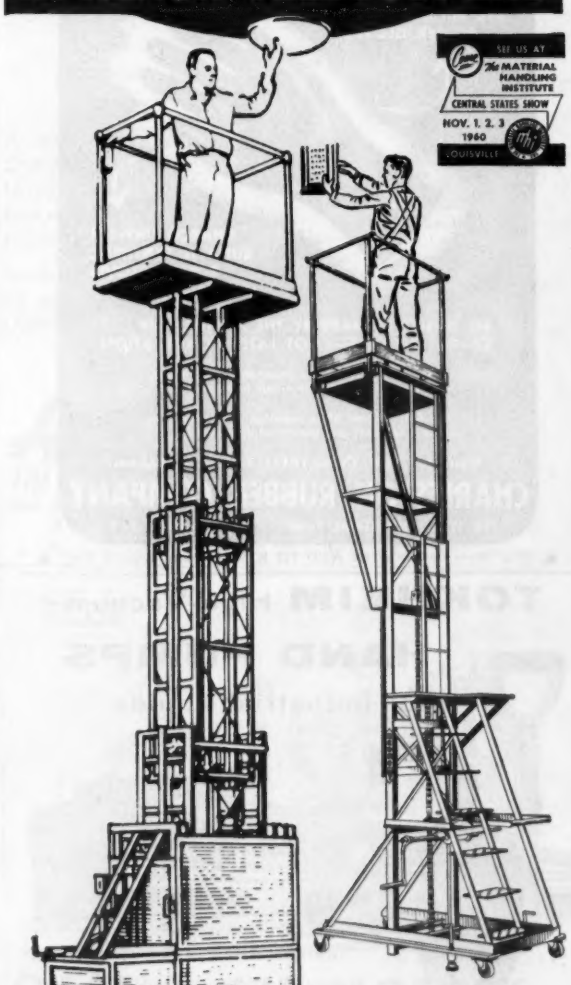
Complete information sent promptly.

miller ELECTRIC MFG. CO. • **APPLETON, WISCONSIN**

Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

For more details circle NED-766 K on enclosed inquiry slip

The man who feels safe works better on overhead maintenance HI-REACH TELESCOPERS



Model PUL
Lift 10'9" — $370.00
Lift 15'0" — $400.00

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Custom built Hi-Reach Telescopers up to 100 ft.

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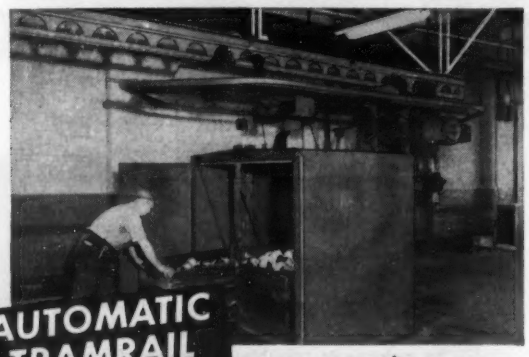
Write for complete catalog

Model LB
Lifts 20 ft. to 35 ft.
$1510.00 up

Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

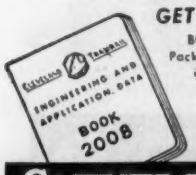
ECONOMY ENGINEERING
4519 W. Lake St., Chicago 24, Illinois

For more details circle NED-770 K on enclosed inquiry slip



AUTOMATIC TRAMRAIL SYSTEM SAVES $1000 PER MONTH

Automatic Tramrail systems almost invariably create big dollar savings. The unit illustrated saves time and eliminates truck wear on floors. It conveys materials between, the first floor of one building and the second floor of another. Regardless of weather condition or time of day or night, it hauls its loads unhampered. Cleveland Tramrail has had wide experience in applying automation to materials handling.



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CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6649 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-771 K on enclosed inquiry slip

ASSURED HAND PROTECTION

CHARLESTON CHARCO RUBBER CO.

BOTH GLOVES MADE BY THE MULTIPLE DIP CEMENT PROCESS — NOT LATEX COAGULATION

"Neo-Sol" gloves offer dependable protection from most industrial chemicals and solvents.

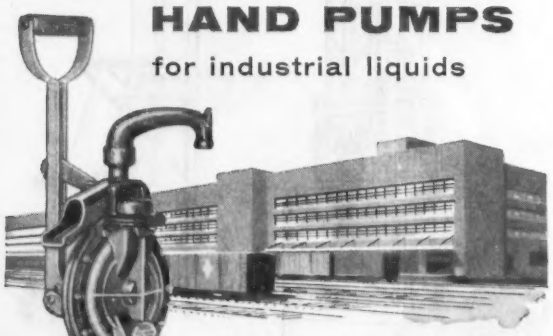
"Hy-Sol" gloves offer premium protection from organic solvents and industrial chemicals.

Write for NEW INDUSTRIAL GLOVE CATALOG—

CHARLESTON RUBBER COMPANY
18 STARK INDUSTRIAL PARK CHARLESTON, S. C.

For more details circle NED-772 K on enclosed inquiry slip

TOKHEIM High-Vacuum HAND PUMPS for industrial liquids



Here's an all 'round utility pump that saves much more than its cost in speeding production, improving housekeeping, preventing waste. Eliminates slippery floors and liquid accumulation so often the cause of fire and accidents. Delivers 20 gallons per 100 back and forth strokes. Pumps oil and many other liquids. (Write for approved list.) Has hose or spout outlet. Call your dealer, your Tokheim representative, or write factory.

TOKHEIM High-Vacuum HAND PUMPS

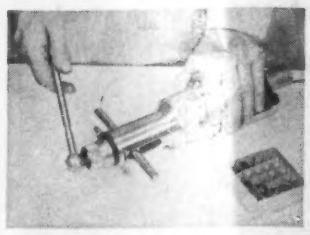
UL FM

General Products Division
TOKHEIM CORPORATION
DESIGNERS AND BUILDERS OF SUPERIOR EQUIPMENT SINCE 1901
1656 Wabash Ave. Fort Wayne 1, Ind.

Subsidiaries: Tokheim N.V., Leiden, Holland — GenPro, Inc., Shelbyville, Ind.
Factory Branch: 475 Ninth Street, San Francisco 3, California
In Canada: Tokheim-Reeder of Canada, Ltd., 205 Yonge St., Toronto, Ont.

For more details circle NED-773 K on enclosed inquiry slip

TUBE FLARING DEVICE
cartridge fires to form the flare



Heavy wall stainless steel tubing as well as tubing of other materials and lighter walls can be flared with the Ballistic Flarer, a cartridge - actuated tool that forms an SAE hydraulic 37-degree flare. Cartridge is fired by tapping firing pin lightly with a small hammer. Firing both increases the clamping force on the tubing and drives a cone to coin the flare. Complete kit provides the flarer, five sets of flaring dies for ½ to 1¼-in. tubing, an assortment of cartridges of varying charges, and hand tools for operation and maintenance. • Parker-Hannifin Corp., Parker Fittings & Hose Div., 17325 Euclid Ave., Cleveland 12, Ohio.

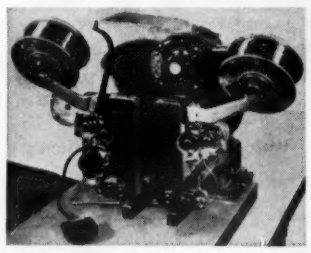
For more details circle NED-774 K on enclosed inquiry slip

SCAFFOLDING
supports a maximum of 5 tons

Made of 1¾-in. tubing with pinch and welded joints, this scaffolding can be erected or dismantled in 5 min. It can be used in any direction and can be placed in corners without difficulty. Low rungs permit work to be done from the 1-ft level up to any practical height. Maximum load capacity is 5 tons. Scaffolding can be pinned to the ground for added stability. • Best Mfg. Co., 134 S. Hilton, Decatur, Ill.

For more details circle NED-775 K on enclosed inquiry slip

WIRE STITCHING MACHINE
dual heads make staples from wire



Materials up to ⅜ in. thick can be fastened by this dual head portable wire stitching machine with a 10-in. throat depth. Heads adjust from 3¾ to 10-in. center-to-center distance, making and inserting two staples simultaneously from coils of wire. Two coils make about 120,000 staples. Wire is stocked in 28 round and flat gages in standard finishes and colors. Machine is actuated by foot or Micro switch and has a single or multiple trip clutch. • General Staple Co., Dept. R, 28 E. 22nd St., New York 10, N. Y.

For more details circle NED-776 K on enclosed inquiry slip

KESTER SOLDER

KESTER SOLDER's highest standards of manufacture and use of virgin metals exclusively are behind its almost single-minded acceptance by industry. Such acceptance has been 60 years in the making . . . and we don't take its responsibility lightly.

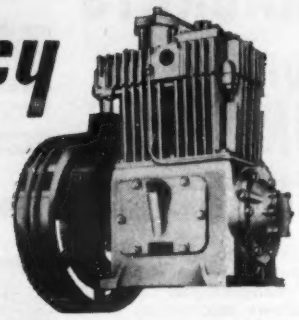
WRITE *today for Kester manual "SOLDER... Its Fundamentals and Usage." Free.*

KESTER SOLDER COMPANY
4249 Wrightwood Avenue, Chicago 39, Illinois, Newark 5, New Jersey
Anaheim, California, Brantford, Ontario, Canada

OVER 61 YEARS' EXPERIENCE IN SOLDER AND FLUX MANUFACTURING

For more details circle NED-777 K on enclosed inquiry slip

Lubrication? AUTOMATIC WITH Quincy



SAFE-Q-LUBE is the exclusive Quincy automatic pressure lubrication system that guards bearings against damage in case of oil pressure drop. If this happens, the SAFE-Q-LUBE feature automatically unloads the compressor.

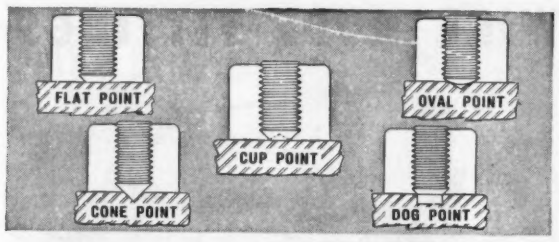
An important advantage like that means less maintenance worries and longer compressor life.

Quincy compressors are built to "take it" and last longer under all conditions and to deliver a maximum of low cost, dependable air power.

Authorized Service available across the country around the clock. Models 1 to 90 CFM. *Send for catalog.*

QUINCY COMPRESSOR CO., Dept. N-1060 Quincy, Ill.
Makers of the World's Finest Air Compressors

For more details circle NED-778 K on enclosed inquiry slip



Dimensionally Controlled Heat Treatment gives Mac-it screws extra strength

Speed, vibration, stress are tough operating conditions that extra strong, extra resilient Mac-it set screws handle with amazing ease. These high quality screws are made of special pre-tested alloy steel, produced with clean, sharp, fully formed threads and points.

Controlled heat treatments, based on material, physical dimensions and end-use, mean that Mac-it set screws resist upsetting of the points and rounding out or splitting of the hex sockets. They are available with cup, flat, cone, oval, and dog points—you select the style you need.

Mac-its hold tight in tight places!

Buy by name from your distributor—buy Mac-it

NEW SPECIFICATION SHEET listing new 1960 Series Industry Dimension Standards for socket head cap screws. Write for your *free* copy.
Mac-it Parts Co., Dept. 24, Lancaster, Pa.

Mac-it

MAC-IT ALLOY STEEL SCREWS

For more details circle NED-779 K on enclosed inquiry slip

MAXIMUM WORKING FORCE IN MINIMUM WORKING SPACE

Air or Hydraulic

milwaukee CYLINDERS

- Quality Construction Throughout
- Guaranteed Top Performance
- No Costly Down Time
- Precision Designed — Heavy Duty Service
- Conforms to JIC Specifications

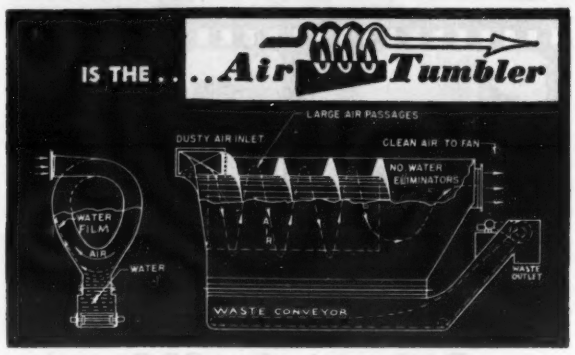
Get all the facts and see how Milwaukee Cylinders can save space and weight . . . Save on original cost and save on maintenance. *Write today for Free Bulletins A-100 and H-100.*

Standard Models Hydraulic Bore Size 1½ to 12" Air Bore Size 1½ to 14" *Specials built to your specifications*

MILWAUKEE CYLINDER CO.
Division of L. & M. Machine Company
5755 SO. PENNSYLVANIA AVE., CUDAHY, WIS.

For more details circle NED-780 K on enclosed inquiry slip

The MASTER of DUST in INDUSTRY



The Wet Collector that becomes Standard Equipment wherever tried because it does a better job at less cost.

More than one million CFM in ONE plant

Write for Bulletin No. 581. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

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METALSET® A4

Epoxy Resin in Tubes

ADVANTAGES OF METALSET

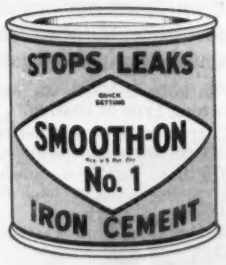
Bonds and cements iron, steel, aluminum, ceramics, concrete. Tough for shock resistance. Packed in self-metering tubes. Also available in 2½, 5, 20 and 100 pound cans. • Water- and oil-proof • Chemically stable.

TYPICAL METALSET REPAIRS

- Stops leaks in tanks, metal roofs, gutters, radiators, pipes
- Caulks conduits, flues, casements, skylights, all sheet metal
- Smooths and fills metal and wooden surfaces
- Machinable; can be drilled, tapped, sanded
- Makes all loose parts tight
- Anchors bolts and screws in wood, concrete, plaster

SMOOTH-ON IRON CEMENT
"SMOOTH-ON NO. 1"

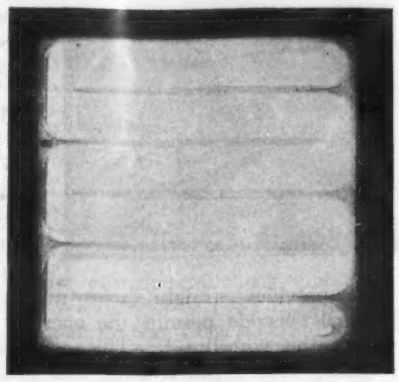
Smooth-On is a dry powder, 70% iron. Mix it with water, it metalizes as it hardens. Resists high temperatures. Expands as it sets to fill a break or hole in any metal. The standard since 1895.
• Smooth-On is a metal filler. Metalset is a coating and bonding compound. Taken together, they meet any emergency.



METALSET
Made by SMOOTH-ON MANUFACTURING CO.
572 Communipaw Avenue, Jersey City 4, N. J.

▲ For more details circle NED-782 K on enclosed inquiry slip ▲

FLUORESCENT AREA LIGHT
arc winds through thin glass block

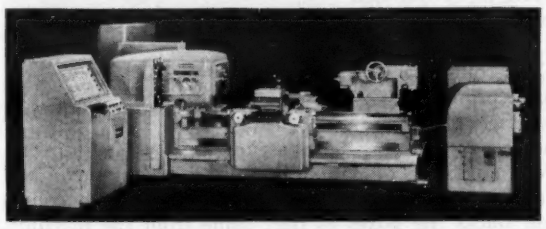


Consisting of a labyrinth or maze of passages sealed in a glass block, this flat, rectangular fluorescent area light has wide application potential. Lamps can be installed in modular fashion, like glass brick or ceiling tiles, to form blocks of light in walls or ceiling, and even in floors. Prototype shown is 1 ft square and about 1½ in. thick with compact rear contacts. Rated 40 to 50 w, it produces more light than a 100-w incandescent bulb. Lamp has a reflector on one side so that all light is reflected through the other side. Attractive pattern glass in the front controls brightness and direction of light. Mass production of these lamps is being planned. • **Westinghouse Electric Corp.**, Lamp Div., MacArthur Avenue, Bloomfield, N. J.

▲ For more details circle NED-783 K on enclosed inquiry slip ▲

CONTOUR TURNING CONTROL
automatically produces contour dictated by numerical information

Turret position, coolant on-off, feed or traverse selections, and selection of one of 18 motor speeds within a 4-to-1 range are contour turning operations controlled



by the Pathfinder numerical control system. It continuously coordinates the relative distance of motion and feed rate of machine slides to produce the contour dictated by the numerical data prepared on eight-track perforated tape. Additional data can be manually inserted in tape. System is installed on a Series 80 heavy-duty Model 2516-20 Dyna-Shift lathe and needs an operator only to load and start the machine.

Major elements in the system console are the tape reader, director, and servo units. Servo feed range is infinitely variable up to 48 ipm and traverse rate up to 175 ipm. Distance between lathe centers is 72 in. Its headstock has 36 spindle speed changes from 10 to 1250 rpm. The main drive motor is a 25-hp, variable speed, constant horsepower model. • **Monarch Machine Tool Co.**, Oak Street, Sidney, Ohio.

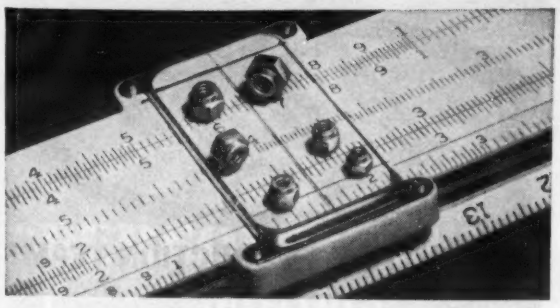
▲ For more details circle NED-784 K on enclosed inquiry slip ▲

Masterminds winding operations with FLUID DRIVE

Here is the most *economical*, most *dependable* solution to automatic control of your winding operations on textiles, paper, steel, plastic, rubber, wire, foil, etc. By incorporating a fluid coupling with a planetary gear set, the Twin Disc HYDRO-WYND *automatically maintains predetermined tensions* while the roll rpm *decreases* and roll diameter *increases*. Now available in new Model 12.2, as well as 8.4. Write Dept. DS for *Bulletin 163-A*.

TWIN DISC
TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

▲ For more details circle NED-785 K on enclosed inquiry slip ▲



Microsize FLEXLOCs save weight and space, increase mechanical reliability of your miniature assemblies. Reusable, they are unaffected by moisture, dryness, oil or grease.

Microsize FLEXLOC locknuts protect mechanical integrity of small assemblies

- Hold tight despite impact, shock, vibration
- Require no auxiliary locking elements
- One-piece, all-metal design . . . every thread works, including those in locking section
- Serve as locknuts or stopnuts
- Sizes #0-80 through #4-40 in alloy steel, stainless, aluminum, brass

See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-786 K on enclosed inquiry slip ▲

AP INDUSTRIAL WHEELS

Pressed Steel

Semi-Steel

Steelite

Semi and Full Pneumatic

Load Ratings To 1700 Lbs. Per Wheel
As low as **$2.75**

A complete line of Heavy-Duty industrial wheels in 4" to 12" diameters, 1½" to 4" face widths with ball or taper-roller bearings.

Immediate delivery from stock by your local AMERICAN Distributor.

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

▲ For more details circle NED-787 K on enclosed inquiry slip ▲

ROTARY AIR GAST PRODUCTS

Six sizes . . . all variable speed, explosion-proof

GAST AIR MOTORS

Need compact, low cost power? For plant use and original equipment applications, Gast rotary-vane Air Motors offer these distinct advantages:

1. Explosion-proof power. No danger!
2. Low initial cost per rated h.p.
3. Variable speed with valve control.
4. Can't burn out from overloads.
5. Vanes take up their own wear.
6. Reversible rotation (opt.) 5 sizes.
7. Very compact — light in weight.
8. Top-quality ball-bearing design.

TYPICAL PERFORMANCE

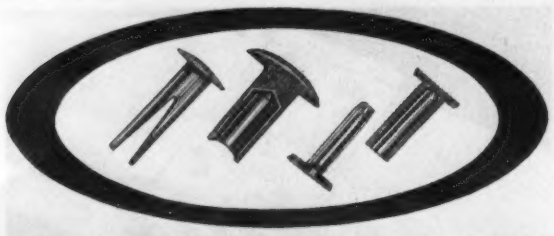
Model No.	H.P. at 90 PSI 2000 RPM	Weight lbs.
1AM	0.13	1½
2AM	0.57	5½
4AM	1.1	8
6AM	2.0	17
8AM	4.0	25
16AM	7.0	65

Gast Manufacturing Corp.
P.O. Box 117-R
Benton Harbor, Mich.

Write for Bulletins — specify models!

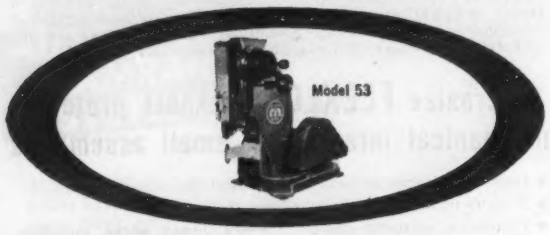
GAST ROTARY
"Air may be your answer!"
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.

▲ For more details circle NED-788 K on enclosed inquiry slip ▲



COST-CUTTING PRODUCTION TEAM!

. . . the two-way answer to assembly problems



Here's a combination that cuts production costs and gets rid of assembly problems in a hurry—Milford Tubular Rivets made to high quality standards to assure a better finished product for you . . . Milford automatic rivet-setting machines that can be quickly adapted to your particular fastening needs. Write for more information on how you can put this team to work.

THE MILFORD RIVET & MACHINE CO.

MILFORD, CONN. • HATBORO, PENN. • ELYRIA, OHIO • AURORA, ILL. • NORWALK, CALIF.

▲ For more details circle NED-790 K on enclosed inquiry slip ▲

NEW, COMPACT AIRETOOL PNEUMATIC SCREWDRIVER BOOSTS PRODUCTION

Newest addition to Airetool's line of air powered production tools, the lever operated 300 Series Reversing Screwdriver and Nutsetter is ideal for assembly and fabrication of plastic, wood and metal components. Lightweight . . . perfectly balanced . . . easy to handle . . . cuts operator fatigue and boosts sustained production. Easy-to-adjust cap screw locks firmly in reverse or forward positions. Available with adjustable clutch for precision work or positive clutch for long, free running and short drive. Quick, easy changeover from screwdriver to nutsetter. Write for Bulletin 69.

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

30 years experience in pneumatic tools

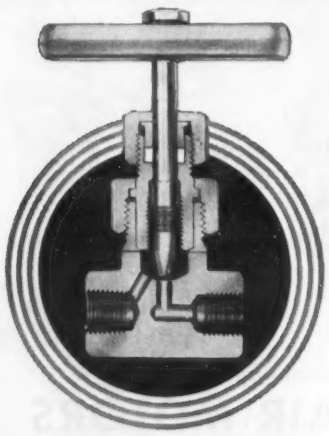
Branch Offices: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge

Representatives in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii

European Plant: Vlaardingen, The Netherlands

Canadian Plant: Brantford, Ontario

▲ For more details circle NED-791 K on enclosed inquiry slip ▲



SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns—screwed or union bonnets.

Your American Meter representative will give you full details.

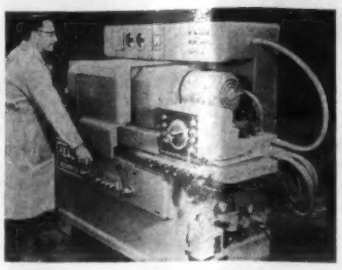
AMERICAN® METER COMPANY (INCORPORATED ESTABLISHED 1836)

General Offices: Philadelphia 16, Pa.

Sales Offices in Principal Cities

▲ For more details circle NED-792 K on enclosed inquiry slip ▲

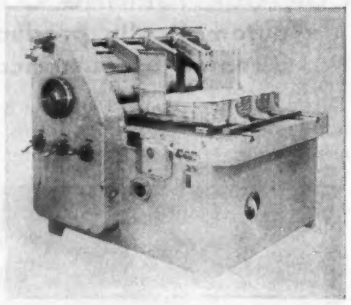
INTERNAL GRINDER has cross-slide mounted wheelhead



Either constant or impulse feeding can be selected through the feed box of the Model 171A internal grinder. For long bore ratios, impulse feeding in which the wheelhead advances only at reversals of the table provides straight holes and smooth finishes. Manual override permits the operator to fast feed or retract the wheelhead. This also allows for heavy roughing cuts, rapid feeding, and good tolerance control. Workpieces up to 8 in. OD can be accommodated. Work with a 90-degree included angle can also be handled. Infinitely variable compensation for wheel wear from 0 to 0.004 in. extends wheel life. Machine is available in Size-Matic, Gage-Matic, or plain models. • **Heald Machine Co.**, 15 New Bond St., Worcester 6, Mass.

▲ For more details circle NED-793 K on enclosed inquiry slip ▲

CONTAINER PRINTER for knocked-down corrugated boxes



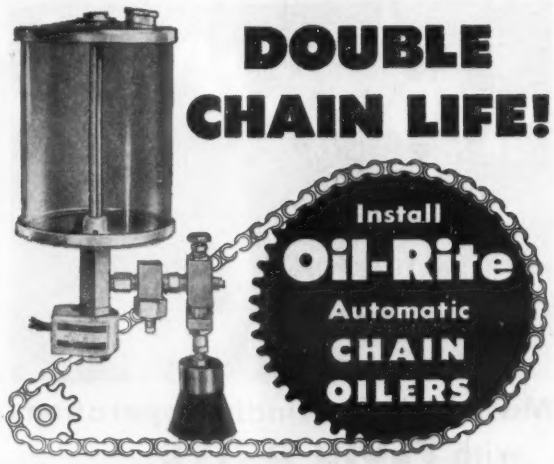
Quick drying flexographic ink action of the KDF printer for knocked-down corrugated containers allows printed boxes to be handled as soon as they come off the machine. The compact machine prints the boxes after the manufacturer's joint has been secured. It is fed directly from any type of container finishing equipment and can be supplied with a counter-ejector which counts and stacks the boxes as they come from the machine. Standard unit prints in one color all panels on the top side of the knocked-down container. Automatic hopper feed, variable speed drive, and register adjustment are features. • **Bostitch, Inc.**, Container Machinery Div., 2018 Briggs Dr., East Greenwich, R. I.

▲ For more details circle NED-794 K on enclosed inquiry slip ▲

Plastic Shapes & Parts

Garlock Inc.—"Plastic Stock Shapes, Molded and Fabricated Parts" is title of 16-page Bulletin AD-177. Chart lists comparative mechanical and electrical properties of Teflon, nylon, C.T.F.E., and Delrin. Available forms of these and other resins are listed, and company's facilities for research, molding, development, extruding, and machining are described.

▲ For more details circle NED-795 K on enclosed inquiry slip ▲



Here's the *low-cost answer to chain breakdowns* caused by link-wear, stretch, corrosion and friction. OIL-RITE Chain Oilers feed oil by gravity through solenoid and sight feed valve to brush which rides the chain. Solenoid *starts and stops with driving motor*, making operation automatic, oiling only when chain moves. Drop feeding adjustable. 9 oz. — 1 gal. in capacity with brushes to suit your chains.

GIVE YOUR PLANT ALL THESE BENEFITS!

- Safe, sure chain lubrication
- Reduce chain wear
- Eliminate costly hand oiling
- Cleaner, less hazardous floors

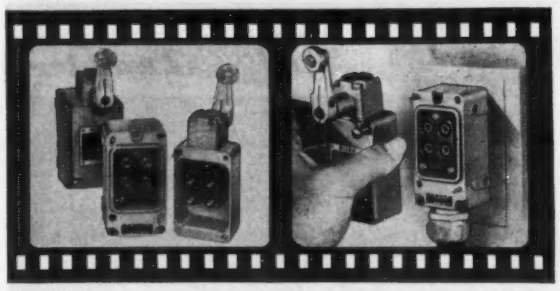
Many styles of Electro and Manual Chain Oilers available. Write for Free Bulletin.

Oil-Rite CORPORATION
2364 WALDO BOULEVARD
MANITOWOC, WISCONSIN

Oil Cups • Dispensers • Oiling Systems • Valves • Oil Gages • Chain Oilers

▲ For more details circle NED-796 K on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches



MICRO SWITCH "Plug-in Limit" Replaces in Just 20 Seconds

Oil-tight, sealed limit switches that replace as easy as plugging in a radio tube. Switch assemblies with nine actuator variations are available to fit this receptacle. The receptacle need not be replaced. Switch assembly can be mounted in 24 different mounting arrangements. Rugged terminal receptacle has heavy No. 8 terminal screws for easy wiring. Case histories prove these replacement time savings boost production. See your MICRO SWITCH distributor, or write for Catalog 84.

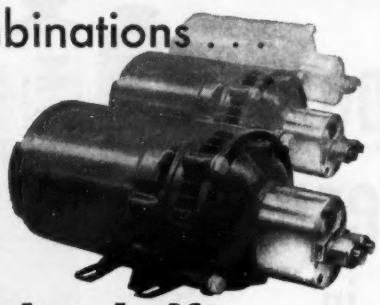
MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell

In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell MICRO SWITCH Precision Switches

▲ For more details circle NED-797 K on enclosed inquiry slip ▲

129 CUSTOM hydraulic pump and motor combinations . . .



off the shelf!

Here are power sources for any hydraulic application. Commercial, military, and aviation research have developed this array of **standard** pump and motor combinations.

With a performance range from .1 to 5 G.P.M. at pressures to 2000 P.S.I., you can expect a stock power source that fits your requirements. Many types of motors offer a choice of electrical characteristics, and are drip-proof, totally enclosed, or have explosion-proof enclosures as required.

When you need custom equipment, call on Eastern and discover how this adaptable line of hydraulic pumps and motors fills the bill without research expense by you.

For full performance data on pump and motor combinations, write for new Bulletin 810-X.

Eastern INDUSTRIES, INC.
100 SKIFF ST., HAMDEN 14, CONN.

▲ For more details circle NED-798 K on enclosed inquiry slip ▲

INSULATION LASTS LONGER, WORKS BETTER WITH FLINTKOTE INSULATION PROTECTIVE COATINGS!

For outdoors against weather or indoors against vapor or moisture, use these specially designed thermal insulation coating products.

- Flintkote C-13-A—an asphalt base clay emulsion for a breathing type of coating.
- Thermalkote*—weather resistant asphalt mastic for heavy duty over wire-held insulation.
- Flintkote C-19—a non-breathing, vapor sealing cutback asphalt coating.
- White Insulation Coating—for interior refrigerations.

For full particulars including light reflective finishes for asphalt coatings write: The Flintkote Company, Industrial Division, 30 Rockefeller Plaza, New York 20, New York.

*Reg. U.S. Pat. Off.

FLINTKOTE

Manufacturer of America's Broadest Line of Building Products

▲ For more details circle NED-799 K on enclosed inquiry slip ▲

RAY-BUF...

new all-purpose polishing pad

Polishes faster—Ray-Buf's deep soft pile of 100% virgin wool gives higher luster faster.

Polishes evenly—New design puts tufts in controlled concentric circles, perfectly balanced, to give even polish.

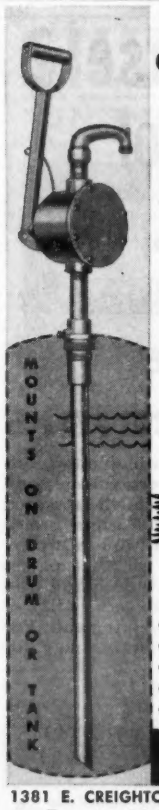
Selected first-quality yarns—Stay fresh and resilient through repeated applications. Give high-quality results.

Washable—Tufts are firmly anchored to tough canvas backing. Won't pull out even after repeated washings.

Write for Ray-Buf bulletin, prices, quantities.

Schlegel MANUFACTURING COMPANY
P. O. Box 197, Rochester 1, N. Y. In Canada: Oakville, Ontario

▲ For more details circle NED-800 K on enclosed inquiry slip ▲



LOW COST HAND PUMPS

for safe, fast dispensing of INDUSTRIAL LIQUIDS

20 g.p.m. TRANSFER LUBE AND CUTTING OILS, SOLVENTS, FUELS AND PROCESS LIQUIDS WITHOUT WASTE

Double-action, 20 g.p.m., corrosion-resistant pump available in models for most plant needs. Complete catalog and prices available by return mail. Quick delivery from many warehousing points.

WRITE for CATALOG

ROTARY TYPE AVAILABLE IN MODELS USED AS

- BARREL PUMP
- HOSE REFUELER
- SKID TANK PUMP
- PIPESTAND UNIT
- PIPELINE MOUNT

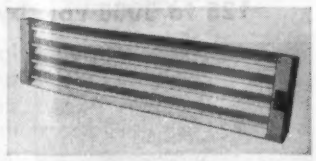
10 g.p.m.

BOWSER, INC. FORT WAYNE INDIANA

1381 E. CREIGHTON • FORT WAYNE, IND.

▲ For more details circle NED-801 K on enclosed inquiry slip ▲

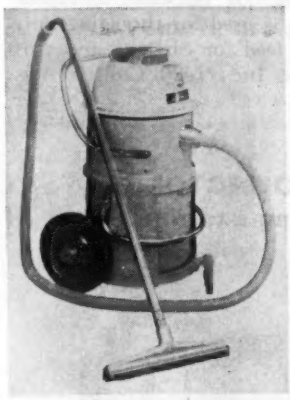
QUARTZ HEATING PANELS
heat can be varied up to 1700° F



Snap-out aluminum reflectors backed up with 2 in. of insulation are incorporated in Clepco infrared heating panels. They have from one to four Clepcofused quartz radiant heating elements in panels with lengths from 2 to 6 ft and widths from 4 to 12 in. Heat can be varied up to 1700° F. Angled panel surfaces provide even distribution of reflected radiation when fitted in any oven. Elements resist thermal shock, vibration, acids, and corrosion. Wiring conforms to NEC and JIC standards. • **Cleveland Process Corp.**, 1773 E. 21st St., Cleveland 14, Ohio.

▲ For more details circle NED-803 K on enclosed inquiry slip ▲

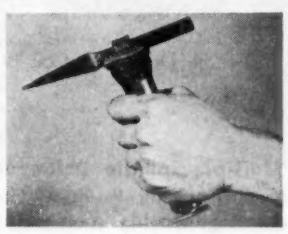
VACUUM CLEANER
has Microstatic impaction filter



Jet-stream 100 vacuum cleaner has been adapted to use the Microstatic impaction filter, allowing its use in special industrial and laboratory "clean rooms" where airborne microscopic dust cannot be tolerated. Recovery capacity is 10 gal of liquid or 1 2/3 bu of dry material. Filter, composed of two layers of glass fiber material, traps all particles down to 0.3 micron in size. Exhaust air flow is gently deflected upward around the entire perimeter of the machine at a 30-degree angle above horizontal so as not to disturb uncleaned areas of floor or room. Unit operates at 144 cfm. • **Kent Co.**, 827 Canal St., Rome, N. Y.

▲ For more details circle NED-804 K on enclosed inquiry slip ▲

STRIKING TOOL HOLDER
handles up to 1¼-in. tools



Chisels, star drills, punches, and other striking tools with up to 1¼-in. shanks can be safely held in this tool holder. Its 6-in. plastic handle is shock-absorbing, nonconductive, and has a nonslip hand grip. Holder removes hands from striking area, avoiding injury and preventing flying tools. Tool will not creep in the holder. A two-man model with an 18-in. steel handle is also available. • **Rose Mfg. Co.**, 2700 W. Barberry Place, Denver 4, Colo.

▲ For more details circle NED-805 K on enclosed inquiry slip ▲

MOTOR PROBLEM ?

"PERSONALIZED" MOTORS

FOR YOUR NEW PRODUCT
Planned, Designed and Manufactured
by *Lamb Electric*

Years of experience in creating fractional horsepower motors for exacting product requirements means you get the RIGHT MOTOR, mass-produced at the most favorable cost.

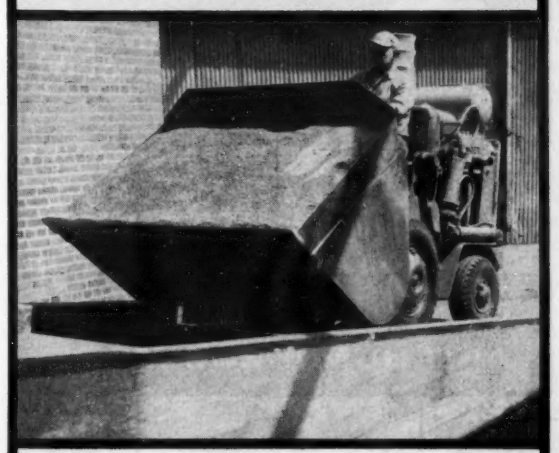
FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference".

THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric SPECIAL APPLICATION FRACTIONAL HORSEPOWER **MOTORS**

▲ For more details circle NED-806 K on enclosed inquiry slip ▲

The H-25 PAYLOADER®



what owners say about it

The success of the H-25 "PAYLOADER" tractor-shovel can best be gauged by what owners say about it. Here are typical comments from foundry, chemical, ceramic, paper, and other industries.

Power and Capacity: The most efficient we've ever used . . . outperforming larger loaders." "Before purchasing the H-25 we had competitive demonstrations that proved its production efficiency over other machines."

Speed and Maneuverability: "Is doing a top production job. Power-steer and power-shift combination gives us maximum efficiency from both machine and operator."

Easy Operation: "The H-25 is a dandy with its power-steer and power-shift . . . gets full loads without spinning wheels and the operator lasts longer too."

Reliable: "They stand up under tough rugged duty with minimum repairs." "The low maintenance on the H-25's has been way superior to any loader previously used."

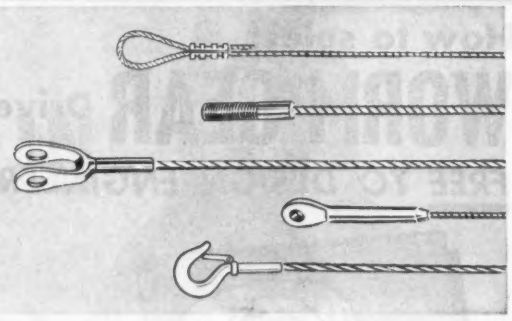
A Size to fit your need: The 2,500 lb. capacity H-25 is only one of the complete proven "PAYLOADER" line of 20 models in 8 sizes — up to 12,000 lb. operating capacity. A nearby HOUGH Distributor, with the finest parts and service facilities, is ready to serve you. 10-A-5

HOUGH

THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY — INTERNATIONAL HARVESTER COMPANY

▲ For more details circle NED-807 K on enclosed inquiry slip ▲

Are The Cable And Assemblies You Use Designed Specifically For Your Needs?



Or are you "getting by" with possibly less efficient, costlier-in-the-long-run substitutes? There's no need to settle for stock items if custom-designed Bergen cable and assemblies could do your job better, safer, for less.

Bergen has the experience, the equipment and the personnel to produce *the* cable and assembly your project requires . . . and deliver it quickly. Don't waste another day or dollar . . . bring your cable and assembly problems to Bergen today.

FREE! Send for Assembly Catalog CA-2

BERGEN
WIRE ROPE CO.
502 GREGG ST • LODI, N.J.

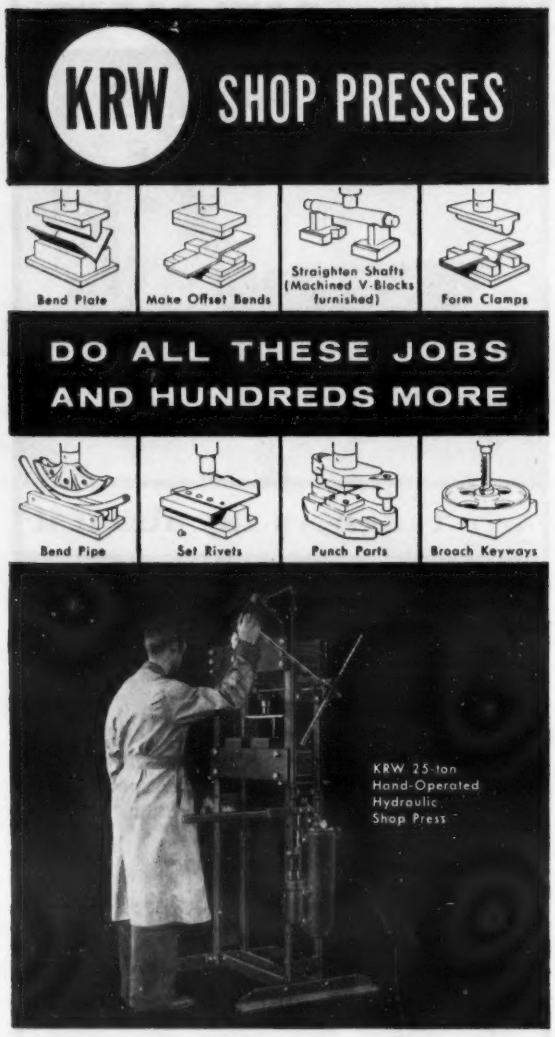
Specializing in the Unusual

▲ For more details circle NED-802 K on enclosed inquiry slip ▲

One of the outstanding advantages of Townsend Tuff Tite fasteners is that they provide an economical means for leak-proof joining of metal, asbestos, porcelain or plastic. The pre-assembled conical neoprene washers flow into the holes as the fasteners are seated, filling them and making waterproof seals. Other advantages include ease and economy of installation, surface protection and vibration resistance.

If you are joining metal, plastic, porcelain or asbestos, you should know about Townsend Tuff Tites. We will send you complete literature. Townsend Company, Engineered Fasteners Division, P. O. Box 71-G, Ellwood City, Pa.

▲ For more details circle **NED-808 K** on enclosed inquiry slip ▲



A "DO-EVERYTHING" MACHINE: This KRW 25-ton Hand-Operated Hydraulic Press will do a multitude of jobs that need a "squeeze" . . . *quickly, accurately and profitably.* In many cases, dies can be readily improvised from scrap steel. Changing from one setup to another usually takes only a minute or two.

EASY TO OPERATE. The capstan hand wheel brings the ram rapidly down to the work. With the pump handle positioned at a convenient working height, it's easy to keep an eye on the pressure gage as well as the work.

PRESS WITHIN A PRESS. By using the capstan hand wheel to apply ram pressure, you also can operate this 25-ton hydraulic press as a 3-ton mechanical press. *It's a KRW exclusive!*

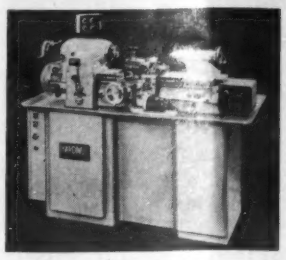
MAIL THIS COUPON for complete details on KRW Hand-Operated and Motor-Driven Shop Presses (Capacities: 25 thru 150 tons).

K. R. WILSON, INC.
1228 MAIN ST., ARCADE, N. Y.
SEND your Hand-Operated and Motor-Driven Shop Press Bulletins to us, without obligation.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

▲ For more details circle **NED-809 K** on enclosed inquiry slip ▲

HIGH SPEED LATHE
speed infinitely variable from 125 to 3000 rpm by pushbuttons

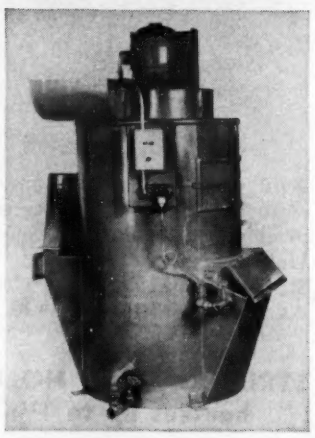


Improved HLV-H high speed precision lathe, designed to fill the gap between plain bench and the heavy-duty engine lathes, has an 11-in. swing and speeds infinitely variable from 125 to 3000 rpm through pushbutton controlled drive. Large headstock frame and large preloaded ball bearings assure precision for sustained operation at full speed. Through-collet capacity is 1 1/16 in., and step chuck capacity is 6 in.

Machine has hardened and ground dovetail bedways and one-piece constructed carriage and apron. All slides have adjusting taper gibs for fine adjustment. Unit has built-in automatic thread length control and quick-acting compound slide for threading as standard equipment. Lead screw is used for threading only. A separate motor provides feed for carriage and cross slide. • **Hardinge Brothers, Inc.**, 1420 College Ave., Elmira, N. Y.

▲ For more details circle **NED-810 K** on enclosed inquiry slip ▲

WET TYPE DUST COLLECTOR
for metal grinding and finishing



Built without moving parts, the Uni-Wash wet type dust collector will remove dirt, dust, grindings, chips, fumes, and vapors generated in metal grinding and finishing operations. Contaminants are washed, scrubbed, and fogged out of the air stream and deposited as a wet sludge for manual or automatic removal. Unit occupies a minimum of floor space. Several standard models with a range of capacities are available, along with custom units. • **DeVilbiss Co.**, 300 Phillips Ave., Toledo 1, Ohio.

▲ For more details circle **NED-811 K** on enclosed inquiry slip ▲

Multiple-Spindle Drillheads

Thriftmaster Products Corp.—Fixed center, angular, rotating, double eccentric adjustable, single eccentric adjustable, and universal joint adjustable drillheads of multiple-spindle design are subject of 28-page Catalog 2. Also described are automatic-reverse tapping attachments and tap-or-drill units.

▲ For more details circle **NED-812 K** on enclosed inquiry slip ▲

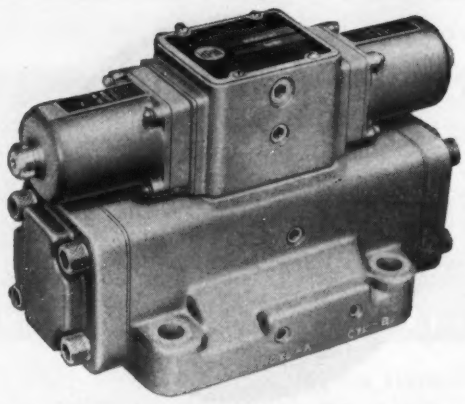
How to select WORM GEAR Drives
FREE TO DESIGN ENGINEERS

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle **NED-813 K** on enclosed inquiry slip ▲



NEW H-P-M 1¼" 4-Way Valves
Pilot Operated, Solenoid Controlled

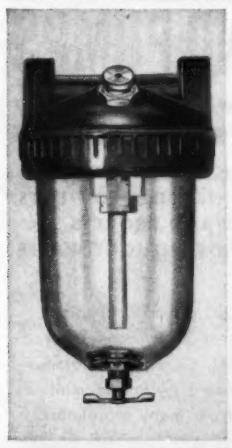
The new H-P-M 1¼" 4-Way Valves are designed for continuous service at pressures up to 3000 psi. They feature oil-immersed solenoid pilot valves as standard to lessen shock and wear on both solenoids and valves. They are completely interchangeable with industry standards and are available from stock for immediate delivery.

The new 4-Way Valves offer unusually good flow characteristics. Pressure drop charts, the results of actual tests, are available. Send for your copy, today. Dimensional specifications will be included.

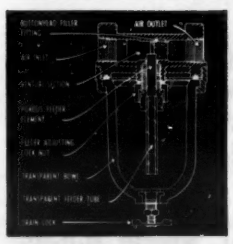
H57

THE HYDRAULIC PRESS MFG. CO. HPM
A Division of Koehring Company, Mount Gilead, Ohio, U.S.A.

▲ For more details circle **NED-814 K** on enclosed inquiry slip ▲



increase air tool life...
with Lincoln airline lubricators

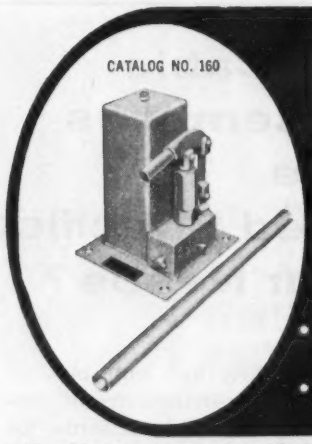


The only way available to lubricate most air-operated tools and equipment is with oil-saturated air. The Lincoln Airline Lubricator automatically oil-saturates, on demand, all air that passes through it . . . increasing the performance and service-life of your tools and equipment. For further details, write today for Bulletin 228.

1051

Lincoln **LINCOLN ENGINEERING CO.**
4010 Goodfellow Blvd., St. Louis 20, Mo.
Division of The McNeil Machine & Engineering Co.

▲ For more details circle **NED-815 K** on enclosed inquiry slip ▲



Hand Hydraulic Pumps

- Single and Double Designs to 20,000 psi
- With or Without Reservoir

160 cubic inch reservoir with 8"x 8" base plate and 18" long handle.

Available with optional size pistons ⅜", ½", ¾", 1" and 1½".

We specialize in the manufacture of hand pump units which operate in temperatures from −65° F. to +160° F. and with any capacity reservoirs required. Pumps can be furnished on special order with custom seals to handle various aircraft types of fuels such as Pydraul, Skydrol, Oronite, etc.

The single pump with ½", ¾", 1" or 1½" piston is now available in stainless steel.

for additional information write:

WILLIAM S. PINE
hydraulic hand pumps for 1001 uses
1635 East 22nd St., Los Angeles 11, Calif.

▲ For more details circle **NED-816 K** on enclosed inquiry slip ▲

new

EATON-RELIANCE

FASTITE NUTS

The best answer yet devised to keep tension in bolted assemblies is the Fastite nut developed by Eaton-Reliance. The Fastite assembly is a combination nut and helical spring washer, permanently held together, but free to rotate when pressure is applied. The helical spring washer provides a much greater reactive range and tension than other types of washers.

Write in for a comparative-tension graph.

EATON — RELIANCE DIVISION — MANUFACTURING COMPANY 509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

▲ For more details circle NED-817 K on enclosed inquiry slip ▲

SILVER PLATING

"ON THE JOB" WITH POWDER

Cool-Amp Silver Plating Powder deposits a genuine coat of silver that will not peel off, and will provide lasting protection against oxidation. It has been used extensively and is accepted as equal to electroplating for bolted and stationary contacts.

REDUCES MAINTENANCE SAVES ELECTRICITY

Cool-Amp minimizes overheating and provides cool maximum conductivity for your copper, brass or bronze contacts. Used on all current carrying connections, Cool-Amp silver plating assures long life and low maintenance and will prevent series of losses from oxidation that are too small to create noticeable heat but still accumulate into major power loss. Apply to fuse clips and blades to reduce overheating.

Cool-Amp contains no cyanide and is simple to apply. It can be used by any number of people at the same time ON THE JOB in underground vaults, sub-stations and hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND—SHIPPED PREPAID

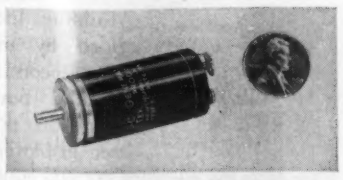
WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

The COOL-AMP Co.

Dept. E D—8603 S. W. 17th Avenue—Portland, Oregon

▲ For more details circle NED-818 K on enclosed inquiry slip ▲

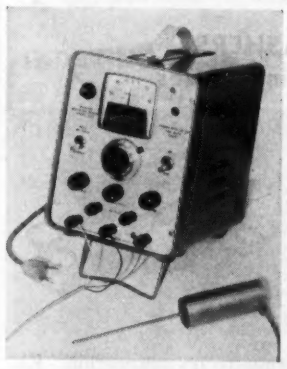
SMALL TACHOMETER
has 1/10 per cent linearity



Added to line of tachometers is this 1½-oz, ¾-in. diameter Model SS-779E-1 with armature inertia of only 3.5 grams per cm². Despite small size, unit has the same linearity (0.1 per cent) as larger established units. Output is 3 v per 1000 rpm, and ripple rms value does not exceed 3 per cent of the direct-current output. Construction embodies an aluminum housing, silver commutator, Mylar insulation, and stainless steel armature shaft rotating on shielded, lubricated ball bearings. Cost is $32.50. • **Servo-Tek Products Co.**, 1086 Goffle Rd., Hawthorne, N. J.

▲ For more details circle NED-820 K on enclosed inquiry slip ▲

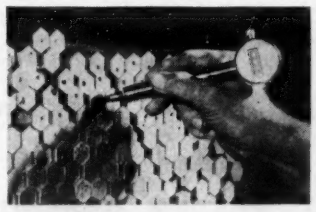
LIQUID LEVEL INDICATOR
for remote use up to 1000 ft



Remote indication of displacement or liquid level is provided by the self-contained Kavlico Model 201A indicator system. Operating on any 110-v, 60-cycle power source and accurate within ±0.2 per cent, it will indicate at distances up to 1000 ft. Transducers are available with strokes from ½ to 10 ft. The portable unit provides direct current output for recording and control and will measure displacement down to 0.0005 in. with an external recorder. • **Vinson Mfg. Co.**, 8044 Woodley Ave., Van Nuys, Calif.

▲ For more details circle NED-821 K on enclosed inquiry slip ▲

INVENTORY COUNTER
marks, records in one operation



Each time a piece of material is touched with pen tip of the Mark-Counter, it leaves a small spot of ink and its counter clicks once. Result is an accurate record of inventory, stock received, count of materials for shipment, and record of in-process items. The spot of ink identifies each item counted and prevents double or missed counts. Each counter is supplied with pens of five different colors for coding or identifying different grades of materials. Complete kit sells for $28.50. • **Van D. Mark**, Box 44, St. Clair, Mich.

▲ For more details circle NED-822 K on enclosed inquiry slip ▲

GROUP WASH FIXTURES SAVE MONEY 3 WAYS

Bradley Washfountains and Showers are designed to speed group washing in factories, offices, institutions, schools.

As a BONUS, Bradleys save money.

1. The *first* cost of a Bradley is less than the individual fixtures it replaces.
2. *Installation* costs less. One set of piping connections replaces up to 10 sets.
3. Bradleys cut *maintenance* costs. Washfountains are foot-controlled—have no faucets, no drain plugs. They rinse clean when in use and are far easier to keep spotless than individual basins. Bradley column showers serve up to 5, have no partitions to clean, no floor obstructions.

Write for new Catalog 6094.

BRADLEY WASHFOUNTAIN COMPANY 2253 West Michigan Street Milwaukee 1, Wisconsin

Bradley

BRADLEY washfountains

▲ For more details circle NED-823 K on enclosed inquiry slip ▲

GO-GETTER CUTS COSTS IN HALF: MAKES JOBS SAFER

A leading chemical plant faced with the double explosion hazard of ethylbenzene fumes and aluminum chloride dust, solved its material handling problems — and saved money in the process—through the use of Revolvator's new fork lift trucks labeled Type Ex by Underwriters' Laboratories for Class 1 Group D explosion hazardous areas.

Previously, two men with a hand truck were required for this operation. Since the introduction of the Explosion Proof Go-Getter, one operator easily charges the hoppers in a safe manner with a minimum effort. "What used to be a dangerous, disagreeable job has now become a simple task," says the plant manager.

The explosion proof Go-Getter, available in 12 standard models, is but the latest development in Revolvator's better than a half century of experience in materials handling equipment covering standard walkie lift trucks, hand lift trucks, portable elevators and related equipment.

REVOLVATOR CO.
8732 TONNELE AVENUE, NORTH BERGEN, N. J.
SINCE 1904

▲ For more details circle NED-824 K on enclosed inquiry slip ▲

ONLY CROSBY-LAUGHLIN SHACKLES

SAY WHAT THEY DO
DO WHAT THEY SAY!

Load-Rated®

GUARANTEED CAPACITIES
SIZE FOR SIZE—UNEQUALLED!

Ask your distributor for catalog on the complete line

CROSBY-LAUGHLIN *Division*
FT. WAYNE, INDIANA

Forged fittings for wire rope and chain

INDUSTRIAL DISTRIBUTORS — THE RIGHT HAND OF PRODUCTION

▲ For more details circle NED-819 K on enclosed inquiry slip ▲

New ROLLPIN APPLICATION DATA!

Esna's latest Rollpin booklet gives you valuable information on where to use and how to install these versatile, all-purpose fasteners. A slotted, chamfered, cylindrical spring pin, Rollpin locks securely in place—yet can be drifted out and used over and over again. Write for it today and see how Rollpins can simplify design and production operations. Address Dept. R55-1037

ROLLPIN®

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

▲ For more details circle NED-825 K on enclosed inquiry slip ▲

LOOK... If you LOOK for Top Value in Disc Equipped Bronze Valves

THE FIRST renewable composition disc valve was a Jenkins Valve, originated nearly a century ago. Compare today's Fig. 106-A Bronze Globe with any other. See why so many valve users agree that a *Jenkins* is still the first for top value.

Among the dozens of superiorities of the Fig. 106-A are: **One-piece screw-over bonnet** with bevel joint between body and bonnet that acts as an internal brace against the crushing effect of bonnet. **Curved diaphragm** to protect seat from distortion. **Higher, wider raised seat** that permits more reseating operations and lengthens disc life. **Heavier spindle** with more threads. **Slip-on, stay-on** disc holder. **Body** with extra thick walls.

WRITE for folder No. 189-B that describes all of the money-saving features of Fig. 106-A and its companion Angle and Check valves. Jenkins Bros., 100 Park Ave., New York 17.

SOLD THROUGH LEADING DISTRIBUTORS EVERYWHERE

JENKINS VALVES
LOOK FOR THE JENKINS DIAMOND
JENKINS SINCE 1864 Jenkins Bros

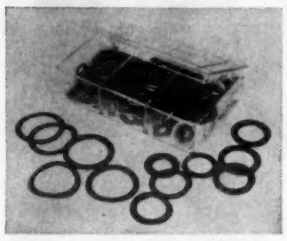
▲ For more details circle NED-826 K on enclosed inquiry slip ▲

MINIATURE INDICATOR LIGHTS
neon type consumes 150 milliwatts

Minimum life of 25,000 hr is provided by miniature LVN Tec-Lites, neon indicator lights with nominal power consumption of only 150 milliwatts. They are used in battery operated and transistorized equipment, and indicator panels using low voltage. Self-contained transistor oscillator circuit converts low dc to ac which is stepped up to neon requirements. Five models operate on from 6 to 24 v dc and have solder turret lugs, Wire-Wrap terminals, or A-MP taper pin receptacles. The 1¾-in. long by 9/16-in. diameter lights operate in a −40 to 65° C range and have spherical or flat top lenses in clear, white, red, or amber. • **Transistor Electronics Corp.**, 3357 Republic Ave., Minneapolis 26, Minn.

▲ For more details circle NED-827 K on enclosed inquiry slip ▲

NYLON THRUST WASHERS
kit contains 100 in 39 sizes



Made of a molybdenum disulphide filled nylon, Nylatron GS thrust washers are free of flash lines and stress spots. They are suited for many uses requiring high wear resistance under light thrust conditions. Washers are rigid, have a high heat distortion temperature, and require no lubrication. Kit of 100 washers contains 39 selected sizes with 1/64, 1/32, and 1/16-in. thicknesses in a rigid compartmented plastic box. Price is $3. • **Hardware Designers, Inc.**, Box 4, South Hackensack, N. J.

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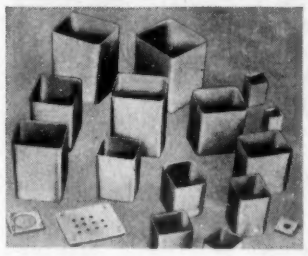
DRAWN MILITARY CLOSURES
stocked in various metals, sizes



Cases and covers are available in all sizes in this line of precision deep drawn AF to OA MIL-T-27A specification closures. Available for off-the-shelf delivery, they are suited for many military and commercial requirements. Components are available in aluminum, brass, copper, mu metal, steel, and stainless steel. • **Hudson Tool & Die Co.**, 18-38 Malvern St., Newark 5, N. J.

▲ For more details circle NED-829 K on enclosed inquiry slip ▲

make hardness tests ANYWHERE WITH THE NEWAGE TESTER

- CLAMPS, JAWS & BASE PLATE ARE ELIMINATED
- NO CONVERSIONS OR CALCULATIONS
- TEST ANY SIZE, SHAPE OR TYPE METAL
- NO SKILL REQUIRED
- SCALE READINGS IN ROCKWELL & BRINELL
- ACCURACY GUARANTEED

Many thousands used by industry and government. Write, wire or call for additional details and prices.

NEWAGE INDUSTRIES, INC.
222 York Road *Jenkintown 13, Pennsylvania*
TUrner 4-8494

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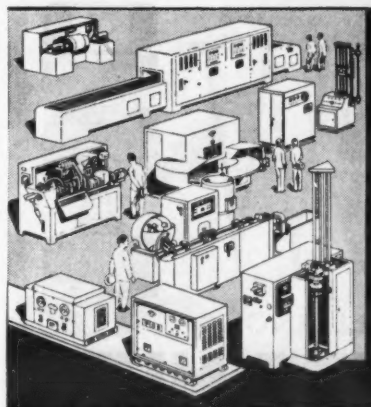

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THER-MONIC

Manufactures the most complete range of

INDUCTION HEATING EQUIPMENT

ELECTRONIC · LOW FREQUENCY
MOTOR GENERATOR

Contact our factory or your local IHC representative.

- Over 20 years of concentrated experience.
- Over 5,000 installations.
- Over 15,000 heating applications resolved in our customer service laboratories.
- This outstanding experience and know-how qualify us to prescribe the techniques and equipment best suited for your requirement.
- Write for New 56-page Catalog of exclusive features, facts and specifications.

INDUCTION HEATING CORP.
181 WYTHE AVE., BROOKLYN 11, N. Y.

▲ For more details circle NED-831 K on enclosed inquiry slip ▲

your most experienced source for

METAL HOSE and FITTINGS

. . . to control the effects of pressure, temperature and motion in the conveying of any medium

Flexonics offers the broadest line of standard hose and fittings available in corrugated or interlocked. Whatever the job calls for in type of metal or special packing, you can depend on Flexonics greater depth of product and experience to provide the answer—and quickly! Standard sizes up to 24 inch I.D.

Write for your free copy of Flexonics complete Metal Hose & Fittings Design Guide . . . or contact the Flexonics Distributor nearest you!

IH-380

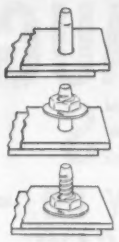
Flexonics corporation
1343 Third Avenue, Maywood, Ill.

PRODUCTS:
Expansion Joints, Bellows, Metal & Synthetic Hose, Aeronautical Components

SUBSIDIARY OF CALUMET & HECLA, INC.

▲ For more details circle NED-832 K on enclosed inquiry slip ▲

SAVE THREADING COSTS!



Get your Threads *Free* by fastening with PALNUT® SELF-THREADING NUTS

Automatically form deep, clean threads while turning on unthreaded studs, rods and wire

- Low price
- Easy, fast assembly
- Strong, vibration-proof grip seated or unseated
- May be removed and re-used on same stud
- Use on zinc die cast studs; steel, brass, aluminum, high-impact plastics
- Get literature and free samples

WASHER TYPE—STYLE SD. Performs functions of nut, lockwasher and flat washer. Resilient spring tension safe for fragile parts. Stud sizes: 1/8", 5/32", 3/16", 1/4".

REGULAR TYPE—STYLE SR. Ideal where space is limited. Uses shorter studs, less seating area. Internal wrenches can be used. Stud sizes: 1/8", 5/32" and 3/16".

ACORN TYPE—STYLE SC. Decorative nut covers stud ends to protect against scratching, snagging or tearing. Stud sizes: 1/8", 5/32" and 3/16".

THE PALNUT COMPANY, 45 Glen Road, Mountainside, N. J.
Division of United-Carr Fastener Corp.
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

PALNUT® Lock Nuts and Fasteners
for quick, secure fastening at low cost

▲ For more details circle NED-833 K on enclosed inquiry slip ▲

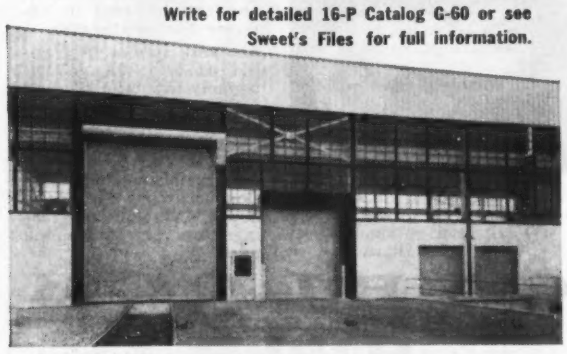
Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

in sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.

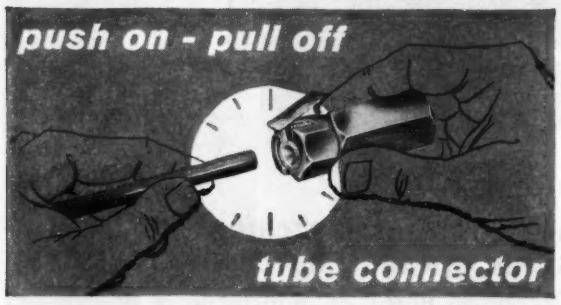


M A H O N

THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN
Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

▲ For more details circle NED-834 K on enclosed inquiry slip ▲

AUTOMATIC LOCKING



Instantly connects pressure and vacuum lines to straight end tubing

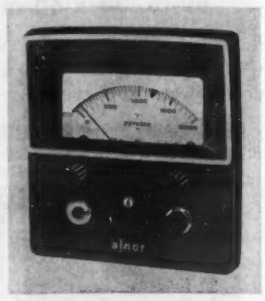
Simply push the Connector over end of tubing and press to "stop" position. This **AUTOMATICALLY** locks tubing into place for a leak-proof seal. To unlock, press Thumb Pad and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for ⅛" to 1½" OD tubing. Other sizes to order. Write for Catalog and prices.

for AIR WATER, STEAM, FREON, etc.

mp MECHANICAL PRODUCTS CORPORATION
1724 West Hubbard Street, Chicago 22, Illinois

▲ For more details circle NED-835 K on enclosed inquiry slip ▲

HIGH TEMPERATURE CUTOUT
will sound alarm or light a signal

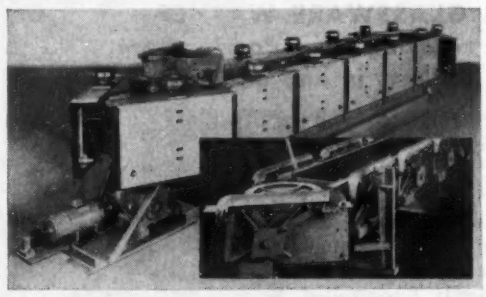


Automatic protection against excess temperature is combined with continuous temperature indication in the Alnor Pyrotac. Model N-30 will not shut off upon line voltage failure, whereas Model N-34 will shut off under such conditions. The instrument will sound an alarm and/or light a signal, thus minimizing need for supervision. It is also available as a low temperature cutout. Intended for use with other controllers, the Pyrotac can also serve as the only control instrument on a process requiring complete shut down or operator attention upon reaching a final preset temperature. Eleven ranges from 0-400° F to 0-3000° F, plus an environmental test chamber range of −100 to −300° F are available. ● **Alnor Instrument Co.**, 418 N. LaSalle St., Chicago 10, Ill.

▲ For more details circle NED-837 K on enclosed inquiry slip ▲

INDEXING CONVEYOR
for production or automated setups

Readily adaptable to wide range of work, this multipurpose horizontal and vertical platen indexing conveyor is made in rectangular and straight-line types.



Electric brake and clutch controls allow continuous drive or variable station dwell operation. Platens are supported by sealed antifriction bearing rollers and flame hardened tracks. Platens butt together when operating and protect the mechanism from dirt and abrasion. Fixed, revolving, or cam-indexed fixtures can be mounted vertically, horizontally, or both on the stations. ● **Murray-Way Corp.**, Box 180, Birmingham, Mich.

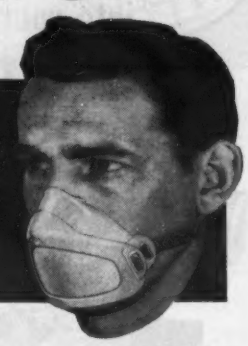
▲ For more details circle NED-838 K on enclosed inquiry slip ▲

Electronic Welding Equipment

Unitek Corp., Weldmatic Div.—Section of 24-page illustrated catalog presents advantages of resistance welding, compares stored-energy welding to ac welding, and outlines factors in selecting stored-energy equipment. Line of stored-energy, capacitor-discharge power supplies, precision welding heads and handpieces, and welding accessories is described.

▲ For more details circle NED-839 K on enclosed inquiry slip ▲

FLEX-A-FOAM
DUST MASKS



Here's everything that management and worker alike could possibly want in a dust respirator!

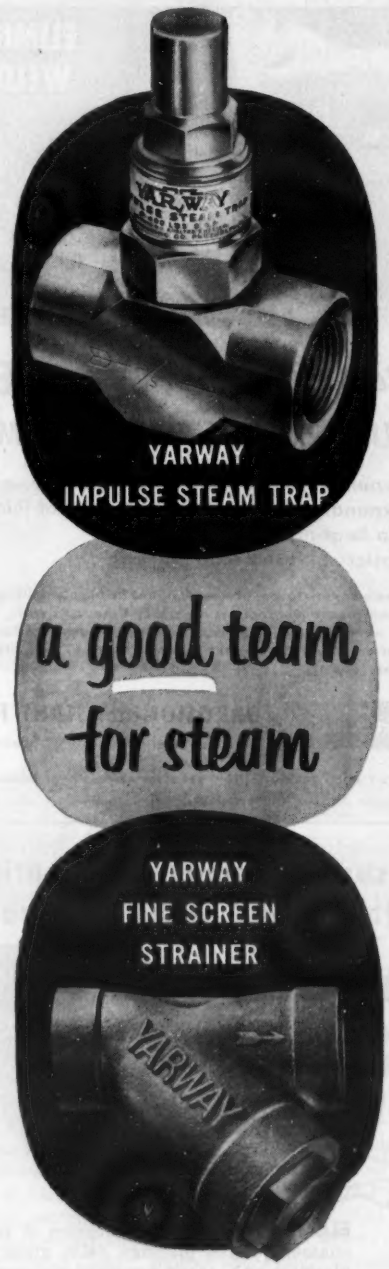
1. **Form-fitting design:** Self-adjusting to any size and shape of face without pressure or irritating discomfort.
2. **Attractive styling:** Smartly designed to suit the most discriminating wearer.
3. **Filtering efficiency:** Filters non-toxic dusts 100 times smaller than the eye can see.
4. **Easy-breathing comfort:** Easier to breathe through and talk through than an ordinary pocket handkerchief.
5. **Feather-like weight:** Weighs only 1 ounce complete.
6. **Simplicity and economy:** Only 4 tough, long-wearing, inter-locking parts — all washable. Pure latex filter outwears throw-away type more than 100 to 1.

No wonder FLEX-A-FOAM is the one dust respirator workers welcome and WEAR!

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM DUST MASK
FLEXO PRODUCTS, INC.
Westlake, Ohio

▲ For more details circle NED-840 K on enclosed inquiry slip ▲



This Yarway team has scored high—over a million installed on all types of steam equipment. Stocked and sold by 270 Industrial Distributors. For free Steam Trap Book, write YARNALL-WARING CO., 131 Mermaid Ave., Philadelphia 18, Pa.

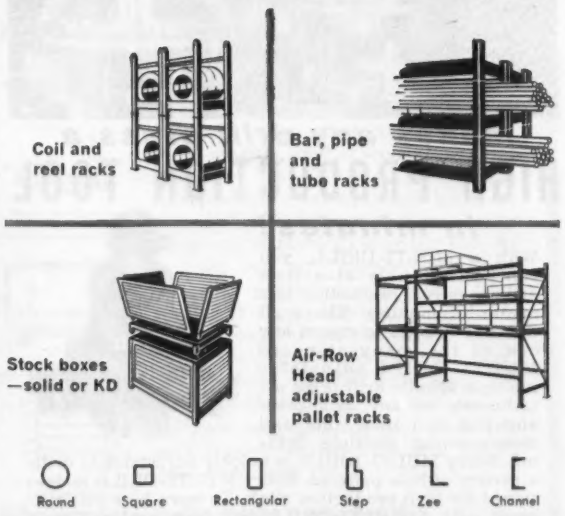
go YARWAY with confidence

▲ For more details circle NED-841 K on enclosed inquiry slip ▲

EMI

RACKS FOR ANY STORAGE OR SHIPPING PROBLEM

Portable stacking racks.
Can be moved within plant or picked up for shipping.



EMI has the most complete range of storage and material handling racks in the industry. Shown here are examples. If you have a special problem, we will design racks to your exact specifications.

METAL WORKING FACILITIES—EMI offers complete metal working facilities including tubular, structural and special shapes.

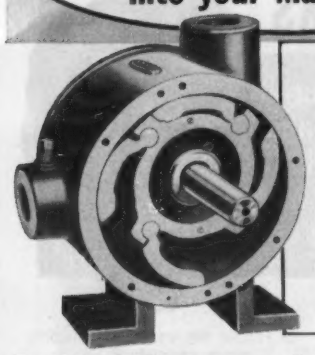
YOU CAN STACK OR SHIP ANYTHING ON EMI RACKS

Write for our complete catalog!

EQUIPMENT MFG. INC.
21550 HOOVER ROAD • DETROIT 5, MICHIGAN

▲ For more details circle NED-836 K on enclosed inquiry slip ▲

Here's why LEIMAN AIR PUMPS
Put "Lifetime" Dependability into your Machines!



HINGED, CURVED VANES OF DURABLE CAST IRON

Take up their own wear!

Four curved vanes on easy-action hinges maintain sealed contact with cast iron cylinder walls by centrifugal force. They hone themselves to hard, glassy smoothness to take up their own negligible wear. 2 to 3 times more air space is provided.

Typical reports from users:
"Never wear out or give trouble"
"Used 350 pumps without a complaint"
"Pumping 24 hours a day for 21 years"
"12 years without attention, except oiling"

Leiman Air Pumps will last for the life of your equipment — providing fully-rated vacuum (suction) or pressure with little or no maintenance. Compact design has fewer moving parts. Air flow is smooth — operation extremely quiet. Every pump tested. Models and sizes to meet varying requirements. Engineering assistance on any design or application problem.

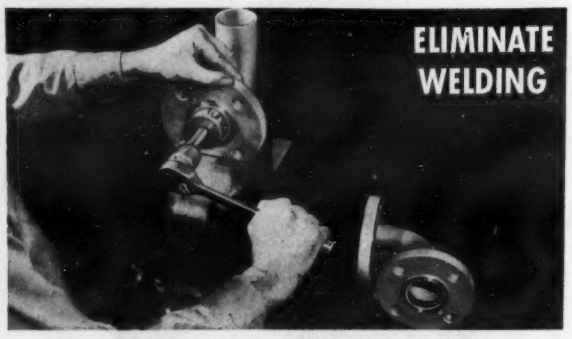
LEIMAN
Rotary Positive
AIR PUMPS

WRITE FOR NEW CATALOG plus Application Book showing hookups.

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N. J.
Established 1887

For more details circle NED-842 K on enclosed inquiry slip



Speedline® FLANGES
SIMPLIFY PROCESS PIPING ASSEMBLY

- Expander and wrench *only tools necessary*
- Expanding feature assures leakproof joints
- No heat-affected zone
- Easier . . . faster than welding

Speedline's *complete line* of long tangent fittings simplifies pipe-connection problems—reduces assembly time, cuts costs. A Distributor near you stocks Speedline fittings—ask him for more information about the "extra length" feature, or write for a Speedline catalog.

1002

Speedline **CORROSION-RESISTANT FITTINGS**
Stainless Steel • Aluminum • Special Alloys

Mfg. by HORACE T. POTTS COMPANY • 532 E. Erie Avenue • Philadelphia 34, Pa.

For more details circle NED-843 K on enclosed inquiry slip

Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings—quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking device assures correct reading every time. Available in twelve scale ranges with contact spheres, "V" block, or flat bases.

Complete with tough leather case, containing inner pocket for test strips, and carrying harness. Weighs only 6 oz.

ONLY $83.75 F.O.B. Cleveland

WRITE FOR ILLUSTRATED FOLDER
FERRO CORPORATION
4150 East 56th Street • Cleveland 5, Ohio

For more details circle NED-844 K on enclosed inquiry slip

POLYETHYLENE BLOW MOLDER
two-stage machine produces up to 50-lb, 38 x 60-in. plastic items

Plastic articles weighing up to 50 lb and measuring up to 38 x 60 in. can be made at a rate of two or more pieces per cycle by this two-stage polyethylene

blow molder. Operation can be automatic, semiautomatic, or manual, and output is 3000 lb of polyethylene objects per hour. Blow molding occurs after a preliminary extrusion-ejection cycle.

The 54,000-lb machine occupies 1200 sq ft floor area with accessories and has a platen area of 50 x 50 in. Accumulator pressure is 100 tons; clamping pressure, 80 tons. Daylight opening is 54 in. and platen stroke is 30 in. Machine shown is producing 55-gal high density polyethylene drums with 0.1 in. wall thickness in a 60-sec cycle. Wall thickness is controlled.

- **Eclipse Plastic Industries, Inc.**, Sarasota, Fla.

For more details circle NED-845 K on enclosed inquiry slip

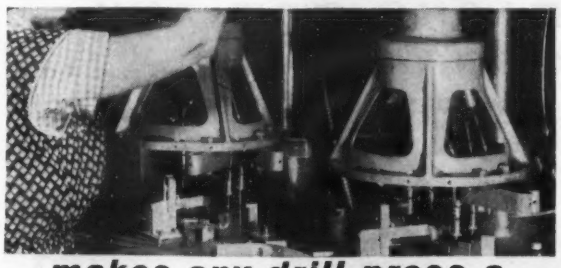
LAB GLASSWARE WASHER
rotating drum carries part baskets in and out of wash

Steam and electrically heated models are offered in this medium-capacity Standard Glassware Washer, designed for the small laboratory. It has an electrically controlled washing program and accommodates four buyer-chosen stainless steel baskets which are carried on a rotating drum in and out of hot wash solution. Baskets will hold a variety of labware without slipping or jostling. Selector permits any stage in the wash cycle to be repeated at any time.

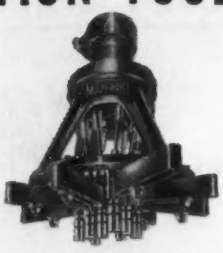
Electric immersion heater, which quickly brings water in the 15-gal tank to the 200° F washing temperature, requires 6 kw of 230 v single-phase ac. Drum motor and solenoid valves use 115 v ac. Washer measures 36 x 35 x 22 in. and is finished in white chemical-resistant enamel. Electrically-heated model lists for $1125, where as steam-heated unit lists for $1100.

- **Fisher Scientific Co.**, 376 Fisher Bldg., Pittsburgh 19, Pa.

For more details circle NED-846 K on enclosed inquiry slip



makes any drill press a
HIGH PRODUCTION TOOL
in minutes!



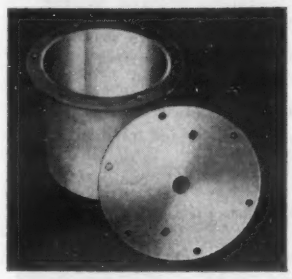
With a MULTI-DRILL, you can go from hole-at-a-time drilling to real production in a matter of minutes! That's all the time it takes to mount any one of the many standard MULTI-DRILL adjustable multiple spindle drill press attachments on any drill press and put you into time and money-saving multiple drilling. Every MULTI-DRILL is quickly adjustable to drill a variety of hole patterns. Every MULTI-DRILL is designed for high production work. To learn how you can profit with a MULTI-DRILL, ask your nearby Commander Distributor to show and demonstrate the unit that meets your job requirements.

Write for the Production Tool Catalog. 109

Commander MFG. CO.
4220 WEST KINZIE • CHICAGO 24, ILLINOIS

For more details circle NED-847 K on enclosed inquiry slip

TEFLON* SHEET Tank Linings



Garlock Tank Linings of Teflon offer the ideal solution to your equipment lining problems. The toughest material yet produced, Teflon gives positive protection against the harshest corrosives.

Hydrochloric, hydrofluoric, and nitric acids, plus the stronger alkalies, oxidants, and solvents cannot harm Teflon Linings. They're easy to clean, non-brittle, non-contaminating, non-flammable, and can be used in *extreme temperatures.*

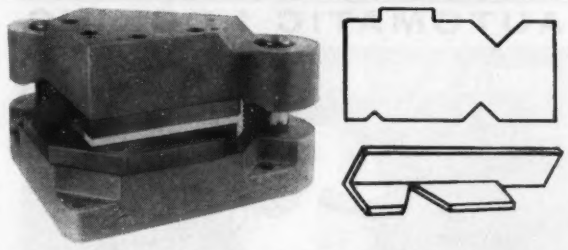
Anti-stick service. For applications where extremely low coefficient of friction is indicated, Teflon Linings can be cemented with excellent bond strength. Typical applications include frictionless liners for ducts, hoppers, tanks . . . facings for valves, machine parts.

GARLOCK

You can obtain details on Teflon Linings by writing to Special Products Department, Garlock Inc., Camden 1, New Jersey.

*DuPont Trademark for TFE Fluorocarbon Resin

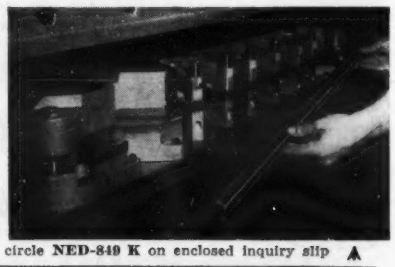
For more details circle NED-848 K on enclosed inquiry slip



SELF CONTAINED NOTCHING UNIT FOR FLAT STOCK AND ANGLE NOTCHING BY TOOLSET.

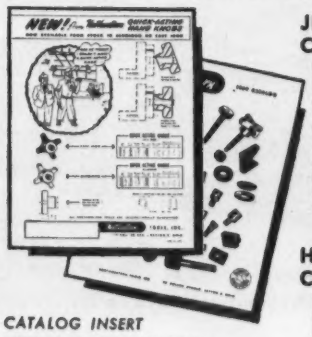
For press brake or punch press operations. Models are available with 5½ inch shut height and 2 19/32 inch die height, or 8⅜ inch shut height and 3½ inch die height. Notch capacity up to 5 x 5 inches. Material capacity up to ¼ inch thick mild steel. Special radius or corner notches can be furnished. Write for catalog or quotation.

TOOLSET INC.
1413 MILITARY RD.
BUFFALO 17, N. Y.



For more details circle NED-849 K on enclosed inquiry slip

QUICK-ACTING HAND KNOBS



JIG AND FIXTURE COMPONENTS
LATCH BOLTS
CAST IRON HAND KNOBS
ALUMINUM HAND KNOBS
QUARTER TURN SCREWS
SHOULDER SCREWS
JIG FEET (3 TYPES)
SPHERICAL WASHERS
FIXTURE KEYS
KNURLED HEAD SCREWS
TOGGLE SHOE CLAMPS & V-PADS

HOLD DOWN AND CLAMPING TOOLS
T-NUT & STUD SETS
STEP BLOCK & CLAMP SETS
FLANGED NUTS
CUT THREAD STUDS
TEE NUTS
COUPLING NUTS
ADJUSTABLE STEP BLOCKS
STRAP CLAMPS (PLAIN & STEP TYPE)

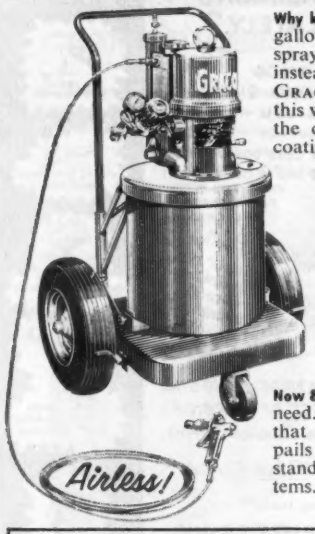
CATALOG INSERT
NEW 16 PAGE CATALOG
CATALOG INCLUDES TRACING TEMPLATES

FREE! **WRITE TODAY**

Northwestern
127 HOLLIER AVE., DAYTON 3, OHIO

For more details circle NED-850 K on enclosed inquiry slip

How *Airless* Graco Hydra-Spray helps you stop wasting paint!



Why keep wasting 3 out of every 10 gallons of paint you purchase by spraying it into the atmosphere instead of onto the work? *Airless* GRACO Hydra-Spray eliminates this waste of costly paint . . . cuts the cost of applying protective coatings by 30-70%!

Amazing what it can do!

- Creates a fine spray with high fluid pressure instead of with atomizing air.
- Eliminates virtually all overspray and bounce back. Requires less masking, reduces clean-up.
- Gives better coverage, applies heavier film per pass of gun.
- Simplifies equipment needs.

Now 8 standard models to meet every need. Portable and stationary units that pump direct from 5-10 gal. pails or 55-gal. drums, plus sealed standpipe unit for circulating systems. *Get details today!*

For nearest GRACO Supplier — SEE the telephone directory YELLOW PAGES — Look under "SPRAYING EQUIPMENT"

GRACO

ENGINEERS AND MANUFACTURERS
GRAY COMPANY, INC.
107 Graco Square
Minneapolis 13, Minnesota

Factory Branches
New York, N. Y.
Philadelphia, Penna.
Detroit, Michigan
Atlanta, Georgia
Chicago, Illinois
Houston, Texas
San Francisco, Cal.
Sales Office
Toronto

▲ For more details circle NED-851 K on enclosed inquiry slip ▲

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from ⅛ pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

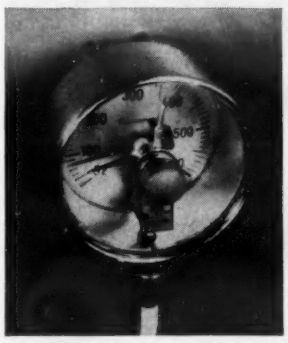
▲ For more details circle NED-852 K on enclosed inquiry slip ▲

ELECTRIC VIBRATOR
has companion speed regulator

Both vibration frequency and impact intensity are controlled in the Model RC-2 electric vibrator, equipped with a companion speed regulator unit. A dial varies the frequency from 1500 to 9000 vibrations per minute and impact range from 9 to 300 lb. Regulator unit can be installed in a convenient location with the vibrator inaccessible. A built-in fuse prevents vibrator burn-out caused by overloading or short circuits. Quiet-operating vibrator weighs 14 lb and measures 7½ x 5⅞ x 4¼ in. Regulator is 5 x 6 x 6 in. and weighs 4 lb. • **Cleveland Vibrator Co.,** 2828 Clinton Ave., Cleveland 13, Ohio.

▲ For more details circle NED-854 K on enclosed inquiry slip ▲

DIAL THERMOMETER
bimetal type attaches with magnet



Temperature ranges from −60 to 700° F are available with accuracies of under 2 per cent in this line of magnetically attached bimetal dial thermometers. They are held to steel or other ferrous material or equipment by permanent Alnico magnets. Styles are available for temperature measurement only, with maximum reset hand, and with electric contactor to permit on-off temperature control with electric resistance or induction heating. • **Industrial Service Co.,** 2 Richmond St., Providence 3, R. I.

▲ For more details circle NED-855 K on enclosed inquiry slip ▲

POCKET TWO-WAY RADIO
Citizen's band unit reaches 1 mile

Transistorized, miniaturized, two-way, Pocketphone radio will receive and broadcast on the Citizen's band at distances up to 1 mile. Built-in Power Pak battery can be recharged and will last up to 1 year without replacement. Microphone and speaker are also built in, and antenna is retractable. Weighing only 13½ oz, radio can be used for paging or other communication in factories, stockyards, and construction areas. Pocketphones are priced at $125 each. • **Textron Electronics, Inc.,** Globe Electronics Div., 22-30 S. 34th St., Council Bluffs, Iowa.

▲ For more details circle NED-856 K on enclosed inquiry slip ▲

WIRE CLOTH

for
FILTERING
SIZING
STRAINING
TESTING

In all metals, all weaves . . woven to the highest accuracy standard in the industry. Hundreds of meshes, weaves and metals to fit your specific need. Years of processing experience to help you pick the right wire cloth for your application. Write for Bulletin FC or write us about your problem. Fast deliveries, best cloth, lowest cost when you call on NEWARK.

NEWARK for ACCURACY

Newark Wire Cloth COMPANY
351 Verona Avenue • Newark 4, New Jersey

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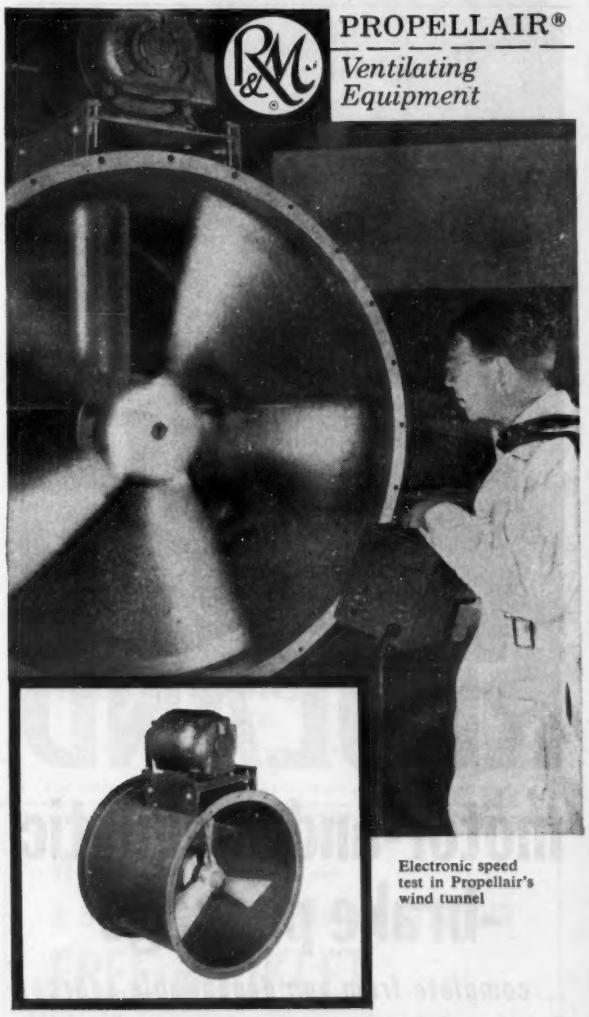


Electronic speed test in Propellair's wind tunnel

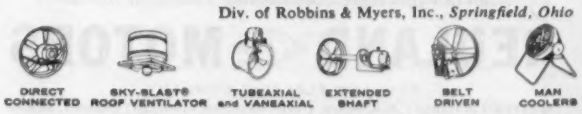
FOR RUGGED DUTY... NEW design axial fans *in sizes up to 60 inches!*

Move corrosive or explosive fumes, extreme heat or high humidity with new PROPELLAIR Type BT belt-driven axial fans. They feature heavy 10 and 12-gage drums . . . isolated, air-cooled, protected bearings and belts . . . airfoil propellers cast of hi-strength aluminum-magnesium alloy . . . Robbins & Myers *"All-Weather"* motors for a single nameplate guarantee on the complete unit.

Hi-pressure, big hub propellers are available for those tough applications developing high resistance.

Send today for complete information on this modern, efficient fan. Ask for Bulletin 620—NE

PROPELLAIR®
Div. of Robbins & Myers, Inc., *Springfield, Ohio*



MOVING AIR IS OUR BUSINESS®

▲ For more details circle NED-858 K on enclosed inquiry slip ▲

Nutting shows you "HOW"...
the widest choice of floor trucks in the world can cut your costs!

Nutting makes over 1000 products, here are just 15 of them

For regular or "special" design floor trucks it pays to talk to Nutting *first.* Here's why: no other company makes more models, sizes or combinations of equipment than Nutting. Many times items which you may find listed as "specials" with other makes are regular equipment in Nutting's complete line. As a result you get "custom built" type trucks at production line prices from Nutting. You not only get overall lower prices; you also get the benefit of 68 years of experience, design "know-how" and modern manufacturing skills. To save valuable hours of your time and get the right equipment for your plant, talk to a Nutting representative *first,* for all your floor truck needs!

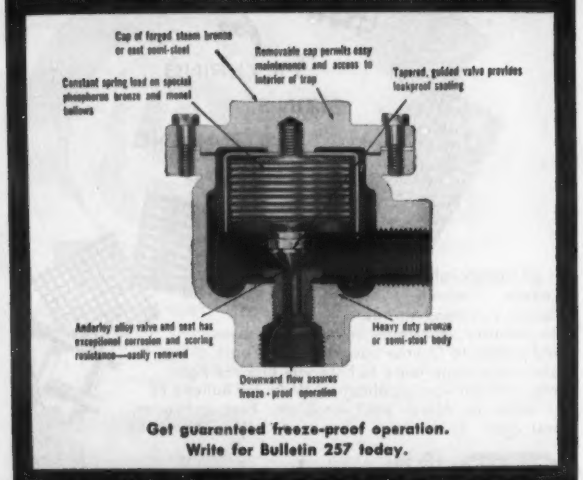
Dollar for dollar, feature for feature Nutting is your best floor truck buy. Write for your free copy of new Junior Catalog 59G.

CASTER AND FLOOR TRUCK

Nutting TRUCK AND CASTER COMPANY
482 Division Street • Faribault 14, Minnesota

▲ For more details circle NED-853 K on enclosed inquiry slip ▲

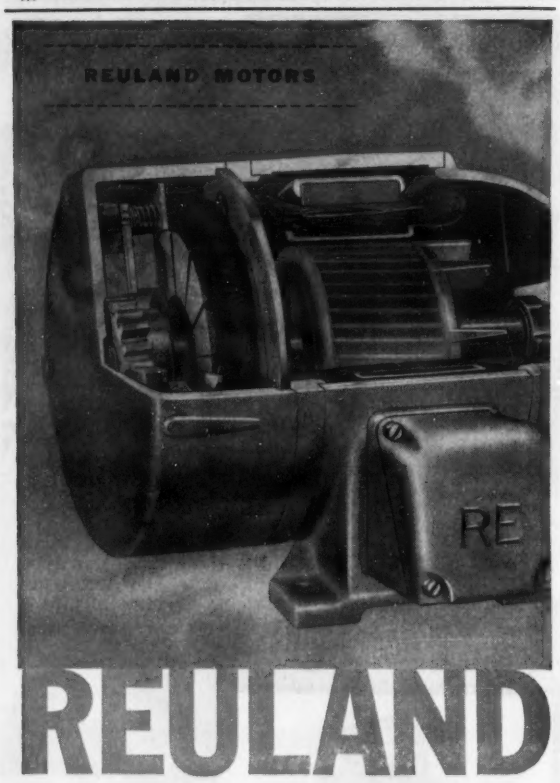
INSTALL ANDERSON QUIK-FLEX THERMOSTATIC STEAM TRAPS FOR LOW MAINTENANCE FREEZE PROOF APPLICATIONS



Get guaranteed freeze-proof operation.
Write for Bulletin 257 today.

THE V. D. ANDERSON COMPANY
division of
INTERNATIONAL BASIC ECONOMY CORPORATION
1988 West 96th Street • Cleveland 2, Ohio

▲ For more details circle NED-860 K on enclosed inquiry slip ▲



REULAND

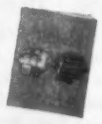
motor-and-magnetic -brake package

...complete from one dependable source!

Reuland manufactures its own magnetic brakes, as well as electric motors, and offers the most versatile selection of tailored-to-your-equipment brakemotor packages available anywhere. Reuland's many hundreds of combinations of H.P., speed, special drive motors and brake sizes, provide an almost unlimited coverage of O.E.M. and user requirements!

So, whatever your brakemotor needs may be, standard or special, let Reuland supply the complete answer in one, compact, smartly-designed power package. One source of supply for brake and motor saves time for your Engineering and Purchasing Departments...one nameplate establishes dependable, nationwide service responsibility!

Brakes available in all 3 mountings
...fulfills J.I.C. specifications!



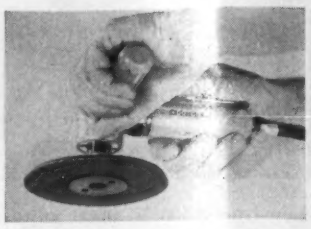
Our new 8-page catalog, No. GS8-30-0, will come in handy. Sent complete with prices and engineering drawings on request. Refer to Sweet's Product Design, Section 5-a.

MODERN POWER FOR MODERN-DAY PRODUCTS
...all in lightweight, cool-running aluminum frames!

REULAND MOTORS
REULAND ELECTRIC COMPANY
WESTERN DIVISION: Alhambra, Calif. EASTERN DIVISION: Howell, Mich.
Distributors in all principal cities

▲ For more details circle NED-861 K on enclosed inquiry slip ▲

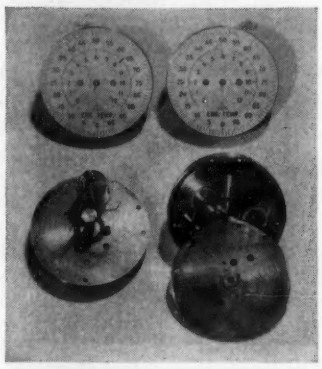
RIGHT-ANGLE AIR SANDER
2¼-lb tool is only 3½ in. high



Compact 2¼-lb, 9000-rpm, right-angle air-powered sander which uses standard 5-in. sanding discs is only 3½ in. high, allowing its use in hard-to-reach areas. Sander is powered by a high torque, vibration-free, four-vane rotary air motor. Model 2AS9 has a lever throttle, whereas Model 2ASP9 has a push-pull sleeve valve for maximum safety. They can be equipped with Series 200 Erickson collets, with sleeves available in eight sizes, for mounting grinding wheels, wire brushes, and drills. • Doeden Tool Corp., Hicksville, Ohio.

▲ For more details circle NED-862 K on enclosed inquiry slip ▲

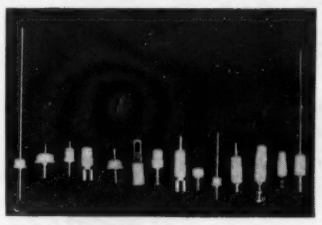
TEMPERATURE INDICATOR
also records up to 1150° C



Temperature cycles through which jet and other type engines perform are indicated and recorded by this temperature indicator. Chart mechanism attached to the gear unit records the heat cycle for any specific period. Temperature range is from 0 to 1150° C. Gear mechanism incorporates maximum safety controls. • Humphrey Gear Mechanisms, Inc., 20-02 Utopia Parkway, Whitestone 57, N. Y.

▲ For more details circle NED-863 K on enclosed inquiry slip ▲

SUBMINIATURE TEST JACKS
mount by means of Teflon insulators



Subminiature test point jacks in both lug and turret styles are available in a variety of code colors with probe diameters ranging from 0.041 to 0.090 in. Contacts and terminals are made of gold-flashed, silver-plated beryllium copper. Kwik-Term terminals are installed in electronic chassis by pressing them into predrilled holes. Teflon insulators, squeezed into the holes, anchor terminals with a rivet-like action. Average lengths range from 0.120 to 2.500 in.; pin diameters, from 0.040 to 0.078 in. Special insertion tools are available. • Cannon Electric Co., 3208 Humboldt St., Los Angeles 31, Calif.

▲ For more details circle NED-864 K on enclosed inquiry slip ▲

BECKER Keen-Cut Electrodes for use in

CARBON ARC-AIR JET GOUGING

KEEN-CUTS—for the best characteristics of carbon and graphite in a carbon arc cutting electrode. Higher current capacity . . . longer life . . . shorter cutting time . . . greater material removal . . . smooth surface gouge . . . controllable accuracy . . . hot stable cutting arc . . . elimination of smoke and gases.

And they're low in cost. Try BECKER KEEN-CUT ELECTRODES—black or copper coated, standard diameters, 12" lengths in 150 to 1400 amp. range—for the most efficient, labor-saving electrode in carbon arc/compressed air cutting.

A COMPLETE LINE OF CARBON AND GRAPHITE WELDING SUPPLIES—carbon and graphite electrodes, carbon rods and plates, welding paste, graphite cores and chills, graphite powder and particles of any mesh.

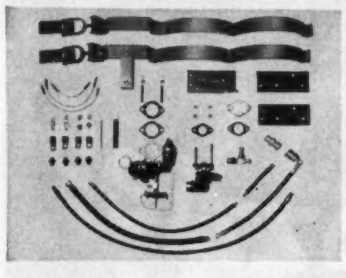
Write for catalog.

BECKER BROTHERS CARBON CO.
3454 South Laramie Ave. • Cicero 50, Illinois
Telephone: BI 2-1260 • Chicago

▲ For more details circle NED-865 K on enclosed inquiry slip ▲

▲ For more details circle NED-866 K on enclosed inquiry slip ▲

BEAM LP-GAS CONVERSION SYSTEMS



CLARK — HYSTER — TOWMOTOR — YALE & TOWNE and all others

Whatever the make and model, whatever the brand and size of engine — BEAM'S ready-to-install systems have everything you need to convert your fork lifts and tow trucks to clean-burning, inexpensive LP-Gas.

FIRST WITH THE FINEST

For over 20 years Beam has been "out-front" with the latest ideas in LP-Gas Carburetion Equipment. You'll find that Beam's line of carburetors, regulators, filters, and installation systems not only do the job better and faster, but they are also much more compact and easier to install.

CONVERT WITH BEAM Write today for complete details and specifications for your equipment.

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SALES OFFICES AND/OR WAREHOUSES
NEW YORK 96-10 Linden Blvd., Ozone Park 16, Queens
FLORIDA 2500 N.E. 48th St., Pompano Beach
TENNESSEE 2020 Airways Blvd., Memphis 4
ILLINOIS 1414 S. Michigan Ave., Chicago 5

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REVCO

ULTRA-LOW TEMPERATURE CABINETS

for
• Research
• Storage
• Seasoning
• Testing

Seven Revco cabinets, both chest and upright styles, are available. Capacities range from 1.5 to 6 cu. ft. in chests and to 22 cu. ft. in uprights. Units provide temperatures to −140° F. controllable within ±1°. Optional accessories are offered. Immediate delivery on all units.

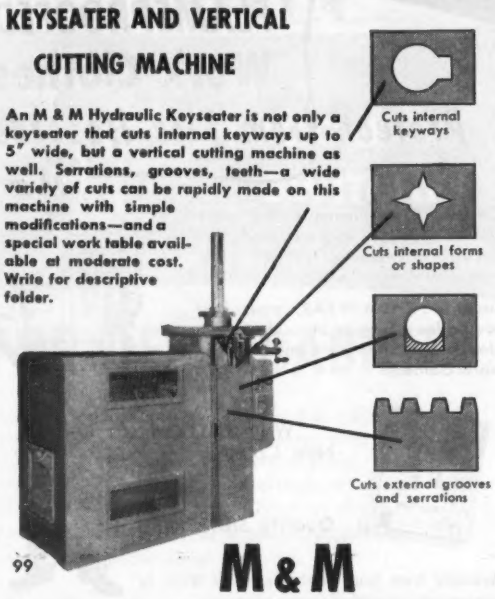
For your FREE copy of the helpful folder, "Selecting a low temperature cabinet," write Revco, Dept. NED-80.

Industrial Products Div.,
REVCO INC.
Deerfield, Michigan
Setting Trends in Refrigeration Since 1938

▲ For more details circle NED-868 K on enclosed inquiry slip ▲

TRIPLE THE USEFULNESS OF YOUR M&M KEYSEATER AND VERTICAL CUTTING MACHINE

An M & M Hydraulic Keyseater is not only a keyseater that cuts internal keyways up to 5" wide, but a vertical cutting machine as well. Serrations, grooves, teeth—a wide variety of cuts can be rapidly made on this machine with simple modifications—and a special work table available at moderate cost. Write for descriptive folder.



M&M

KEYSEATERS AND VERTICAL CUTTING MACHINES

MITTS & MERRILL • 1000 So. Water St. • SAGINAW, MICH.

▲ For more details circle NED-869 K on enclosed inquiry slip ▲

Engineered and Standardized to deliver Outstanding Performance

GENERAL PURPOSE BELT CONVEYERS

• Mathews General Purpose Belt Conveyers are furnished in a wide range of belt widths and section lengths. They can be assembled easily, for all parts are standardized and furnished from stock. The conveyers have several features which make them especially practical for the average package handling problem. The drive unit may be located at the end, or at any convenient point beneath the conveyer. End roller assemblies, takeups, and three-pulley devices are all standardized and easily installed.

Write for Bulletin G. P. 53 and Catalog 856 today.

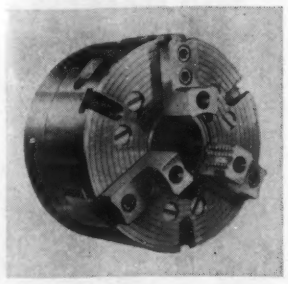
GENERAL OFFICES ..... MATHEWS CONVEYER COMPANY, Ellwood City, Pennsylvania
WESTERN DIVISION ..... MATHEWS CONVEYER COMPANY WEST COAST, San Carlos, California
CANADIAN DIVISION ..... MATHEWS CONVEYER COMPANY, LTD., Port Hope, Ontario, Canada

Over Fifty Years of Leadership in Mechanized Handling

MATHEWS

▲ For more details circle NED-870 K on enclosed inquiry slip ▲

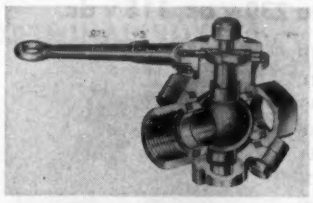
POWER CHUCK
with up to 4-in. ID center hole



Operated by either air or hydraulic cylinder, this power chuck has up to 4-in. ID center hole for chucking bars, and long thin work pieces. Either hard stepped or soft blank jaws are standard equipment and adjust easily to grip a variety of diameters. Lever ratio is 8 to 1. Jaws stay locked even if power fails. Seven standard sizes from 4¼ to 16 in. are available in both two and three-jaw styles, and with seats to mount directly on the spindle of most popular lathes. • **PowerGrip, Inc.**, Rockfall, Conn.

▲ For more details circle NED-871 K on enclosed inquiry slip ▲

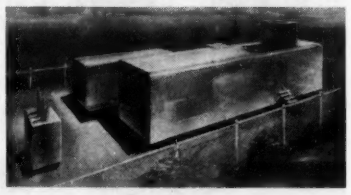
BALL VALVES
for operating pressures to 1000 psi



Handle effort required to operate Hi-Flo ball valves varies but little regardless of line pressure. Optional ratchet makes possible one-pull opening and closing, an advantage in difficult-to-reach locations. Valve is built for operating pressures to 1000 psi in bronze, aluminum, stainless steel, and ductile iron. Seats are of nylon, Kel-F, and synthetic rubbers, with seals of synthetic rubbers to suit requirements. Balls are hard chrome plated or hard anodized. Available sizes are ⅜ to 2 in., with 3, 4, 6, and 8-in. sizes to be offered soon. • **Besler Corp.**, Valve Div., 4053 Harlan St., Emeryville, Oakland 8, Calif.

▲ For more details circle NED-872 K on enclosed inquiry slip ▲

GAS TURBINE POWERPLANTS
3000, 7000, and 12,000-kw ratings



Installed for as little as $80 per kilowatt, self-contained, automatically controlled Econo-Pac gas turbine powerplants are designed for peaking, reserve capacity, or emergency operation. They provide a quiet, unattended source of 3000, 7000, and 12,000 kw. Plant requires only a flat 3-ft thick concrete slab foundation, plus electrical and fuel connections. Above cost is for winter operation; summer cost is $100 per kilowatt. Full capacity is maintained with evaporative inlet air coolers when dry-bulb air temperature exceeds 80° F. • **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

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HEATS FAST → SAVES TIME

johnson

NO. 142 HEAT TREATING FURNACE

Start heat treating high speed and carbon steels while other furnaces warm up. Powerful burners in this efficient furnace get heat up to 1300°–2350° F. range in minutes. Temperatures accurately and quickly regulated. Ratchet-operated door opens upward — no need to open fully every time. High temperature refractory-lined firebox keeps heat uniform — 7" by 13" by 16½". 200,000 BTU's per hr. Carbofrax hearth, G.E. Motor and Johnson Blower included.

F.O.B. Factory . . . $374.00

JOHNSON GAS APPLIANCE CO.
591 E Avenue N.W.,
Cedar Rapids, Iowa

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Wally the Witt says:

"TAKE IT FROM WITT - WITT CANS CAN TAKE IT!"

Yes, Witt Cans *can* take it—from 3 to 5 times longer than any other can!

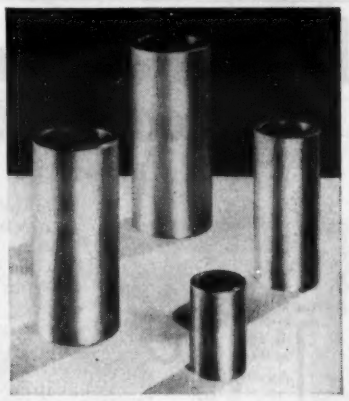
Look at Witt's outstanding features — straight sides, deep rolled corrugations, solid beaded bands—top and bottom, heavy duty steel, wear resistant bottoms, sturdy lids and hot-dip galvanized after fabrication!

WITT Cans

THE WITT CORNICE COMPANY
4454 Steel Place, Cincinnati 9, Ohio

▲ For more details circle NED-875 K on enclosed inquiry slip ▲

Johnson GP Bearings Do Same Job As Specials At 1/3 The Cost



Don't waste money using costly special bearings when quality Johnson Bronze General Purpose Standard Stock Bearings can do the same job—*with savings up to 66 percent.*

Johnson GP's, available in 214 ID-OD combinations and 21 lengths, have the same design features of most specials but at lower cost. More than 900 stock bearing sizes are available *quickly* from Johnson distributors. GP's can be supplied also with slots, grooves or holes at slight additional cost.

Don't lose out on quality or economy. Specify Johnson GP's—from your nearby Johnson Bronze distributor.

Johnson Bronze Company
New Castle, Pa.
West Coast Plant: Oakland 8, Calif.

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Water treatment— a serious engineering problem

FREE BOOKLET gives practical answers

Scale deposits and slimes can wreak havoc with air-conditioning and refrigeration systems and with boilers and heating systems. It is a condition all maintenance engineers know and fight. But not everyone can tell you how to *cure* water problems. And not all water treatment chemicals can combat the conditions successfully. "Virginia" can do both. Our chemicals are economical, easy to use—and sold by wholesalers everywhere. A letter, wire, or phone call can bring a "Virginia" man—skilled in every phase of water treatment—to you with the right answers.

VIRGINIA SMELTING COMPANY
135 Jefferson St., West Norfolk, Va.

☐ Send me a copy of your free booklet, "Water Cooling Problems—How to Correct Them"
☐ Send a "Virginia" field man around to see me

Name _____ Title _____
Company _____
Address _____

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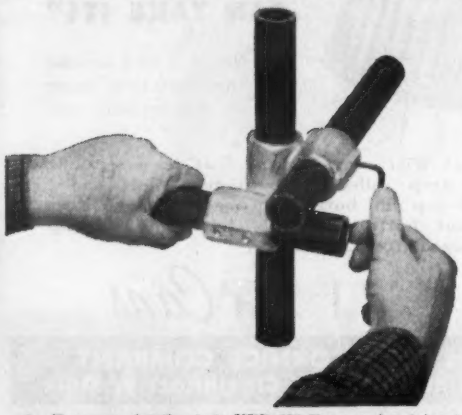
You can
BUILD
CHANGE
EXPAND
MOVE
your storage racks with only a
HEX KEY, HACKSAW *and* **RACKMASTER® FITTINGS**

RACKMASTER FITTINGS cut rack-building time as much as 60% by eliminating threading and welding. They cut other rack-building costs, too—
- pipe is 100% salvageable
- pipe-cutting is reduced to a minimum
- regular warehouse crews can build racks
- slip-on feature simplifies design and construction

RACKMASTER is stocked by leading distributors. Write for details on Rackmaster and multi-purpose NU-RAIL Fittings Bulletin 38-E

THE HOLLAENDER MANUFACTURING CO., 3841 Spring Grove Ave., CINCINNATI 23, O.



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RUGGED for long and constant service

The Coffing Quik-Lift Series S Electric Hoist is designed and made to give dependable cycling service day after day on your production lines. To reduce wear and down-time the gearing system employs the patented Perry Speed Reducer in which more teeth are in mesh than any other type of system.

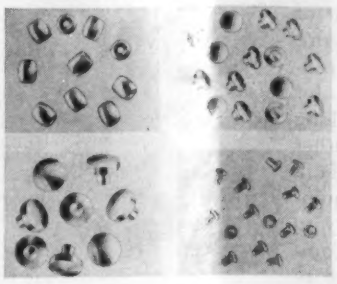
Long service life also is built in with a heavy-duty motor—oversize brake—safety limit switch—high strength, wear-resistant load sheave—alloy steel link chain—forged alloy hooks—heavy-duty ball bearings—lifetime lubrication and precision machined housings. Twelve models with ½ to 3-ton capacities available. Ask your distributor or write for Bulletin ADH-75.

COFFING HOISTS
DUFF-NORTON
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle NED-879 K on enclosed inquiry slip ▲

▲ For more details circle NED-880 K on enclosed inquiry slip ▲

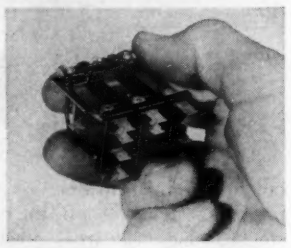
GOLD CONTACTS provide long contact life



Formation of various sulfides and oxides which create undesirable electric circuit resistance is prevented on Gold-Bonded contacts. They provide long contact life, certain fabricating advantages, and improve product performance. Price reportedly is only slightly higher than fine silver contacts. Particularly suited for low level circuits, they are available in any standard button or rivet size and shape, or can be made to specifications. • **Contacts Inc.**, 1100 Silas Deane Highway, Wethersfield, Conn.

▲ For more details circle NED-881 K on enclosed inquiry slip ▲

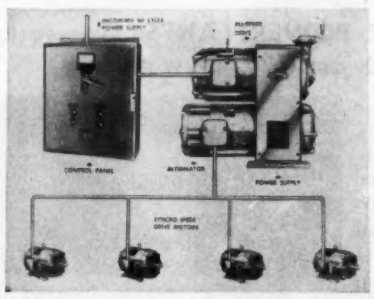
SMALL POWER RELAY coil voltages to 230 v ac, 115 v dc



Contact rating of 10 amp at 115 v ac is a feature of compact Model P2 power relay. It has 3/16-in. quick-connect or solder terminals on the front panel and, if desired, on the coil. Contact arrangements up to three-pole double-throw, with coil voltages up to 230 v ac or 115 v dc, are available. • **Warco Industries, Inc.**, 6625 Delmar Blvd., St. Louis 30, Mo.

▲ For more details circle NED-882 K on enclosed inquiry slip ▲

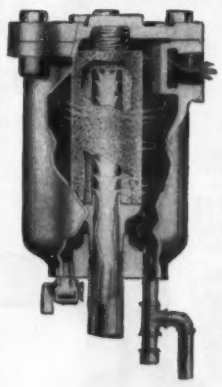
ADJUSTABLE SPEED DRIVES range in size from 2 to 15 hp



An integrated system consisting of an adjustable frequency power supply, one or more Syncro-Speede drive motors, and a control panel comprise Bulletin 111 Syncro-Range-Drives. Offered in 2 to 15-hp sizes, they provide adjustable speed of two or more synchronous induction motors running in exact synchronism over a wide speed range. Infinitely adjustable frequency for speed changes is provided through the mechanical interaction of adjustable discs and a ribbed belt. Applications include multiunit conveyors, textile or paper printing or finishing, metal run-out tables, and synthetic fiber spinning, drawing, or twisting. • **Louis Allis Co.**, 427 E. Stewart St., Milwaukee 1, Wis.

▲ For more details circle NED-883 K on enclosed inquiry slip ▲

ADAMS PORO-STONE AIR FILTER, designed to remove oil, water and foreign matter from compressed air lines with minimum pressure drop.



The R. P. Adams Poro-Stone air filter is engineered to efficiently remove entrained oil, water and pipe scale from compressed air lines. Liquid droplets and solids being carried by the gas stream are first removed by centrifugal action in an annular chamber. Secondary filtration is achieved by passing the air or gas stream through a porostone unit. An automatic trap can be provided to discharge the residue from the cyclone chamber.

At rated capacity the filters operate at a maximum pressure drop of only ½ lb., thus insuring delivery of line pressure to the point of consumption.

The units require virtually no service or maintenance—thereby insuring continued trouble-free, low cost performance.

ADAMS Poro-Stone air filters are available from stock in sizes to suit your needs. For further information, write today for Bulletin 117, R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *Advt.*

▲ For more details circle NED-884 K on enclosed inquiry slip ▲

CHEM-WEAR®
Permanently FLAMEPROOFED Work Clothes
Protect from Fire Hazards

CHEM-WEAR Flameproofed work clothes protect workers from the hazards of welding, test cell work, light metal splashes.

Look to CHEM-WEAR, your best source for all types of acid-resistant clothes and a complete line of cotton work clothes.

Write for New Catalog

Quality Since 1896

Available from Your Safety Dealer or Write to

M. SETLOW & SON, Inc.
PLANTS: ORANGE, CONN. & PROSPERITY, S.C.
Mailing Address: P.O. BOX 1784, NEW HAVEN, CONN.

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EYES RIGHT™

GOGGLE CLEANER AND ANTI-FOG WITH CONTROLLED SURFACE TENSION

- **gives complete penetration and dispersion**
- **assures total cleaning power**
- **leaves crystal-clear film**
- **long-lasting residual action fights fog**

Controlled surface tension in combination with powerful cleaning and anti-foggant agents give EYES RIGHT total cleaning power.

The wider dispersion of EYES RIGHT enables it to thoroughly penetrate every corner and crevice of an entire surface area. Goggles, windshields, windows, lenses—glass or plastic—are more completely cleaned. And stay clean longer. EYES RIGHT leaves a long-lasting residual film that prevents fogging even under the most difficult conditions.

Workers appreciate . . . safety and efficiency demand . . . the clearer vision of EYES RIGHT. All polyethylene packaged for easier handling, shipping, safer storing . . . won't break or shatter. Write for a free demonstration and name of dealer nearest you.

EYES RIGHT self-dispensing, key-locked cabinet of sturdy steel at left. At right, 3½ oz. squeeze bottle . . . ideal for personal use at bench, desk or in the field.

© 1960 International Latex Corp.

A few key distribution areas are still open for EYES RIGHT. For information, write:

INTERNATIONAL LATEX CORPORATION
INDUSTRIAL DIVISION/EMPIRE STATE BUILDING, N.Y., N.Y.

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McGILL®

FOR DEPENDABILITY

Rely on McGill Toggle Switches for applications requiring fully protected performance. The housing is impact resistant, dust- and vibration-proof. Models are available in 6 amp. to 20 amp. ratings, SP and DP with added DC and HP ratings. Choice of terminals.

From a complete line of momentary contact, rocker, toggle, and special-design switches.

Send for free Catalog No. 60.

engineered electrical products McGILL® precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

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A TULSA® WINCH CAN TAKE IT!

- RESERVE STRENGTH
- LONGER SERVICE
- WORLD-WIDE DISTRIBUTION

Stronger . . . more durable . . . greater operating efficiency . . . easier installation . . . that's the Tulsa Winch! And Tulsa Winches are so versatile. There's one designed for every purpose. Whether it's the big job or the small job, the Tulsa Winch can more than take it. Immediately available through the world-wide sales-service facilities of our dealers and distributors. Ask to see our line.

TULSA PRODUCTS DIVISION
VICKERS INCORPORATED
Division of Sperry Rand Corporation
731 E. First Street
TULSA 20, OKLAHOMA

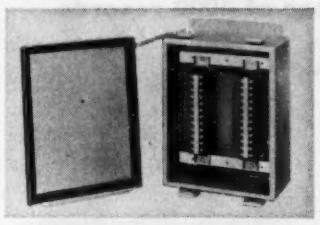
▲ For more details circle NED-888 K on enclosed inquiry slip ▲

PORTABLE PUNCH RIVETER
punches hole, sets and heads rivet

Suspended type portable punch riveter punches the hole, places the rivet, and performs the heading, all in less than 2 sec. The 50-lb, pneumatic squeeze-type riveter is furnished with a cable-type balancer for overhead suspension, but can be permanently installed on a work bench. Machine shown is a 1/8-in. model, with other sizes also available. Punching and riveting action is controlled by finger trigger and hand grip. Rotating feeder drum holds about 500 flush or round head rivets. • **ACF Industries, Inc.**, ACF Electronics Div., Riverdale, Md.

▲ For more details circle NED-890 K on enclosed inquiry slip ▲

TERMINAL BOXES
have sectionalized terminal blocks



Made to JIC standards, oil and dust-tight 14-gage steel terminal boxes have screw clamps to close the gasketed covers. All seams are welded. Boxes are furnished with sectionalized terminal blocks or with steel straps for mounting of blocks. Adequate space for wires under and around the straps facilitates wiring. Additional straps may be added. Standard sizes from 8 x 6 x 3½ in. to 16 x 14 x 6 in. accommodate 18 to 64 terminals. Boxes have exterior mounting feet and a gray hammertone enamel finish. • **Hoffman Engineering Corp.**, 863 Tyler St., Anoka, Minn.

▲ For more details circle NED-891 K on enclosed inquiry slip ▲

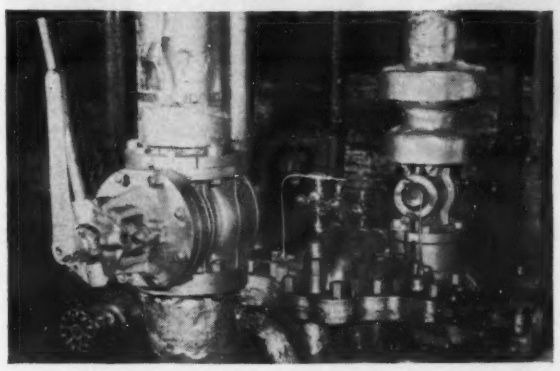
GRINDING WHEEL
dish-shaped type for weld grinding

Narrow radial contact between this dish-shaped grinding wheel and the work keeps wheel speeds high for rapid removal of welding beads without excessive heating. Called the Koolie Hat wheel because of its shape, it minimizes operator fatigue by eliminating jitter and bounce during use. Wear is uniform on all three layers. Wheel is made in 7 and 9-in. diameters, 1/4 in. thick. • **Bay State Abrasive Products Co.**, 21 Union St., Westboro 2, Mass.

▲ For more details circle NED-892 K on enclosed inquiry slip ▲

STICK-PROOF OPERATION EVERY TIME

with Homestead® Lever-Seald Quarter-Turn Plug Valves. Homestead's powerful lever and screw principle assures positive action . . . even under the most



severe temperature, pressure and fluid conditions. It also guarantees added protection to the sealing surfaces and longer life, because the plug is firmly seated in the body in either open, closed, or throttle positions. And Homestead's straight line flow of fluid minimizes pressure drop. For extra long valve life on corrosive or erosive services where a non-lubricated valve is preferred, specify Homestead Lever-Seald Plug Valves. Write today for more information.

HOMESTEAD VALVE MANUFACTURING COMPANY
"Serving since 1892"
P.O. Box 84, Coraopolis, Pennsylvania

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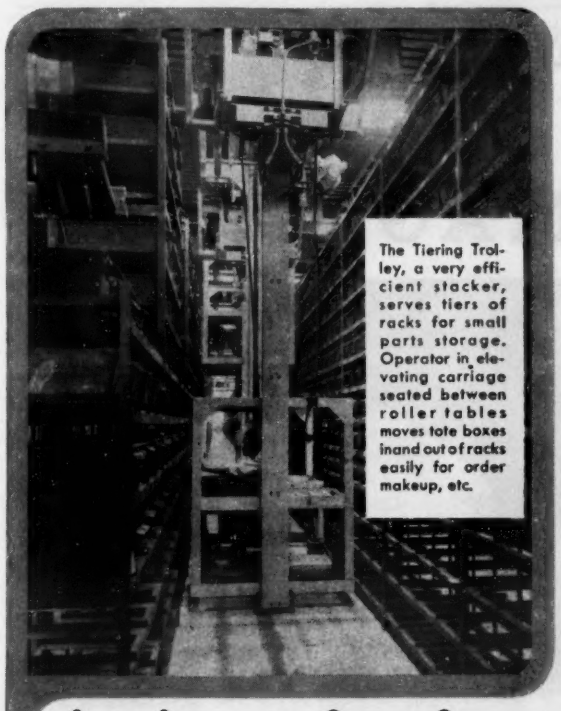


The Tiering Trolley, a very efficient stacker, serves tiers of racks for small parts storage. Operator in elevating carriage seated between roller tables moves tote boxes inand out of racks easily for order makeup, etc.

Cut Costs...Save Space

Louden stacks higher with safety

Operational in the narrowest aisles, Louden Stackers conserve floor space making possible maximum utilization of storage area. And, they provide selective storage for a variety of materials so that each is immediately available.

An important design feature insures safe operation of Louden Stackers at all times. As a load approaches the upper limit, it is closest to the frame from which it is suspended. Thus, where the stacking height becomes hazardous for conventional floor operated equipment, the entire Louden Stacker assembly is at its most stable condition.

When you have material handling requirements, call on Louden, the pioneer of overhead handling. Benefit by Louden's unequaled experience and broad array of service-proven equipment. Most Louden installations pay for themselves in months; some have done so in a matter of weeks.

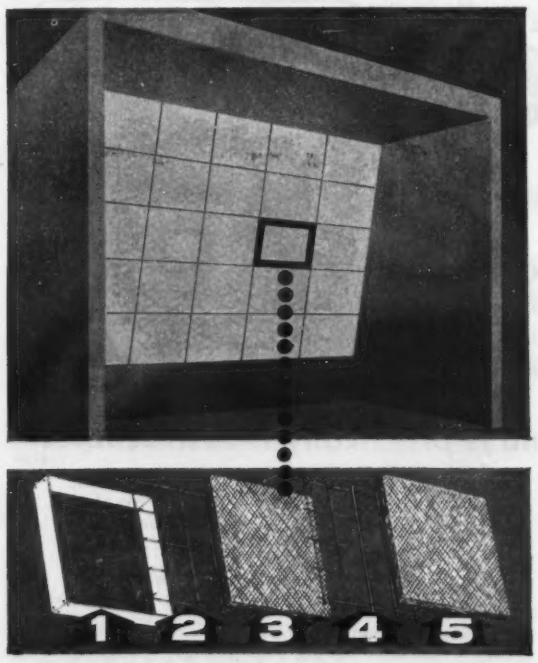
Write today for PHOTO REPORT NO. 108 . . . a variety of examples of Louden Stackers at work.

Louden MONORAIL & CRANES

THE LOUDEN MACHINERY COMPANY
1004 Court, Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems Inc.

SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

▲ For more details circle NED-894 K on enclosed inquiry slip ▲



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

RP PAINT ARRESTORS

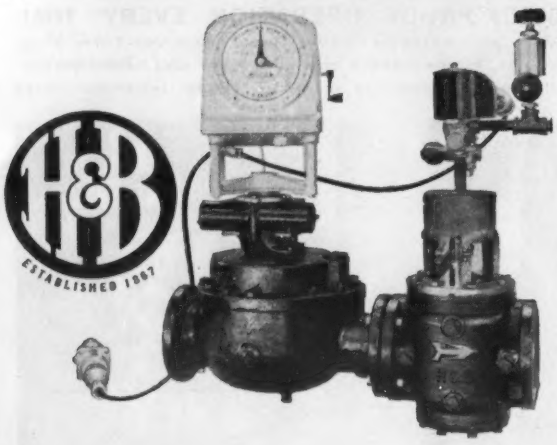
UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation

Dept. 32-J, MADISON 1, WISCONSIN

▲ For more details circle NED-889 K on enclosed inquiry slip ▲



JACKETED METER . . . with micro adjustment and automatic resetting

For the proper handling of heavy liquids, all meters, pumps, pipes and valves handling such materials should be jacketed. In any liquid processing operation where the maintenance of uniform temperature in the process pipes is necessary, an H & B jacketed system will assure dependable, economical production. Write for Bulletin Fl-56.

HETHERINGTON & BERNER INC.
725 KENTUCKY AVENUE INDIANAPOLIS 7, INDIANA

▲ For more details circle NED-895 K on enclosed inquiry slip ▲

New Bausch & Lomb 3X Illuminated MAGNIFIER!

IDEALLY SUITED FOR QUALITY CONTROL ENGINEERING

The new 3X Illuminated Magnifier gives full three power magnification wherever detailed examination or inspection of small objects is needed. Brilliant illumination directly on the object being viewed and a wide field of view make this magnifier particularly versatile. Available in battery or 115V models, it weighs only 15 ounces. The all-metal housing measures 3¼" high; 3" wide; and 5" long. Either battery or 115V model $14.75.

Over 65 different types of readers and magnifiers are available to answer your every need. All feature lenses of the finest quality optical glass, ground and polished to curve. Be sure and specify Bausch & Lomb.

WRITE FOR *catalog No. 1-103 to Bausch & Lomb Incorporated, Rochester 2, New York*

BAUSCH & LOMB
SINCE B&L 1853

Makers of: Balomatic Projectors • CinemaScope Lenses
Ray-Ban Sun Glasses • Binoculars • Microscopes
Quality Eyewear • Rifle Sights • Scientific Instruments

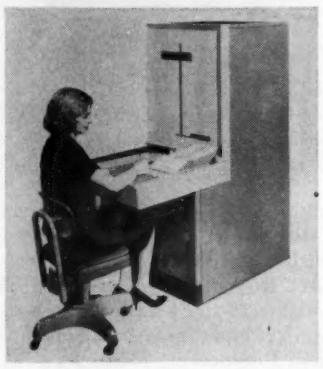
▲ For more details circle NED-896 K on enclosed inquiry slip ▲

VIBRATORY SCREENING UNIT is 1/3-hp high frequency unit

Powered by a ⅓-hp, 3600-rpm high frequency vibrating motor, Model J screening unit is adaptable to a wide variety of uses. Unit is available with steel, stainless steel, or aluminum screens and is engineered to meet individual requirements. It converts easily to a portable unit. Used in processing of metals, plastics, ceramics, and chemicals, it is available with dust enclosures, portable hoppers, wash boxes, feeders, and screen heaters. Specific designs for multiple separations and wet, dry, or air screening can be requested. • **Derrick Mfg. Co.**, 590 Duke Rd., Buffalo 25, N. Y.

▲ For more details circle NED-897 K on enclosed inquiry slip ▲

MECHANIZED VISIBLE FILE turns up any one of 4000 records

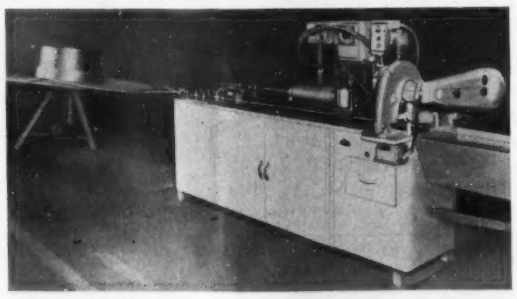


More than 4000 visible records are at fingertip control of the operator of this Electro Kardex mechanized file. Pushing a button on the selector panel brings into perfect posting level a slide containing the desired record. Operator can then visually run down the exposed edges of the Kardex pockets and flip the specific record into view. File can speed the posting-reference process by as much as 50 per cent. Unit adapts well to inventory control, personnel record, purchasing, credit, production, cost, and sales uses. • **Sperry Rand Corp.**, Remington Rand Div., 122 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-898 K on enclosed inquiry slip ▲

TUBING CUTOFF MACHINE cuts up to 5000 pieces per hour

Coiled nonferrous metal and plastic tubing is straightened and cut in any lengths required by this cutoff machine at rates up to 5000 pieces per hour. It pro-



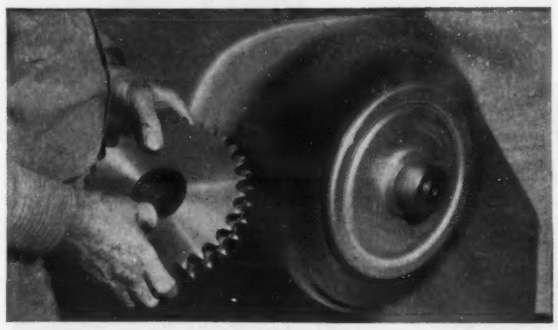
duces lengths in any increment from 1/16 in. to 10 ft and can be adapted for longer lengths. Changeover from one length to another is done by dial. Machine will handle soft tubing up to ⅜ in. diameter and adapts to round, hex, or square bar stock up to 1 in. • **Precision Parts Co.**, Box 149, Haddonfield, N. J.

▲ For more details circle NED-899 K on enclosed inquiry slip ▲

HOSE CLAMPS & COUPLINGS high pressure worm drive type

Hose and pipe can be joined for extreme pressure and vibration conditions with Hi-Torque heavy-duty worm drive hose clamps and V-band coupling made of stainless steel. Clamps withstand up to 180 lb-in. wrench torque and feature wide area of contact between worm thread and slotted areas of the thread. Diameters range from 1 to 6¼ in. in ¾-in. increments. V-band couplings will couple flanged taper joints of various pipe, duct, tubing, and cylinder connections. They can be plain contact, or gasketed to suit O-ring seal requirements. Couplings range upward in diameter from 3 in. • **Federal Laboratories, Inc.**, Saltsburg, Pa.

▲ For more details circle NED-900 K on enclosed inquiry slip ▲



DEBURRING PROBLEMS FADE AWAY

The Vonnegut Brush-Backed Polishing Head is unmatched in its ability to remove burrs from complicated shapes, such as this double width sprocket wheel. The Vonnegut Head will blend tool marks and polish as well as deburr. The variety of sizes and brush diameters in which this tool is available makes it Versatility-Plus. Ask for Bulletin No. 102.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2530-J WINTHROP AVENUE, INDIANAPOLIS 5, INDIANA

▲ For more details circle NED-901 K on enclosed inquiry slip ▲

Control Quenching to Improve Heat Treating

The NIAGARA Aero HEAT EXCHANGER transfers the heat from the quench bath to atmospheric air. It never fails to remove the heat at the rate of input, giving you real control of the quench bath temperature. You prevent flashing of oil quenches. You improve physical properties, save loss of your product from rejections, get faster production, increase your heat treating capacity.

Savings in piping, pumping and power as well as great savings in cooling water return the cost of the equipment to you in a short time.

Write for Bulletin 120 and 132

NIAGARA BLOWER COMPANY
Dept. ED-10, 405 Lexington Ave., New York 17, N. Y.
District Engineers in Principal Cities

▲ For more details circle NED-902 K on enclosed inquiry slip ▲

NEW **Dwyer** FLEX-TUBE Series 25

THE **MANOMETER** THAT

- *COSTS HALF as much*
- *Is only HALF as BIG*
- *IS ACCURATE to 3%*
- *Does 4 NEEDED JOBS*

and is practically indestructible!

Only 7⅜" wide, 5⅞" high and 1⅜" deep. Housing and tube of tough Tenite II plastic. Logarithmic indicating tube for accurate and easy reading. Two ranges: 0-3" and 0-7". Gages (1) static pressure, (2) draft, (3) filter resistance and (4) velocity from 0-7000 fpm. (with pitot tube).

A complete "package." Unit includes all necessary connector tubing and fittings, mounting screws, fluid, instructions.

Write for informative catalog page

F. W. DWYER MFG. CO.
P. O. BOX 373-Q MICHIGAN CITY, INDIANA

▲ For more details circle NED-903 K on enclosed inquiry slip ▲

- Easily portable
- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing, adjustable rollers
- Positive roller lock for unloading

STYLE A
2,000 lbs. cap. for reels up to 28" wide. Weight 60#.
PRICE $46.50
f.o.b. Cincinnati

STYLE B
4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#.
PRICE $84.50
f.o.b. Cincinnati

• Special sizes on request.

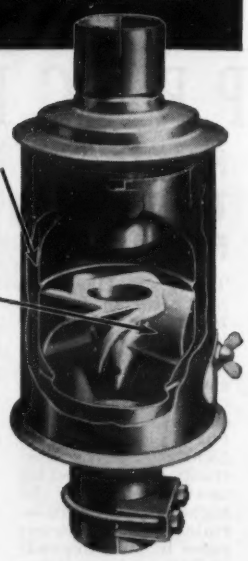
ROLL-A-REEL 4626 Reading Road Cincinnati 29, Ohio

▲ For more details circle NED-904 K on enclosed inquiry slip ▲

NEW AIR-MAZE EXHAUST SPARK ARRESTER

engineered spark protection for all types of on and off-highway vehicles and stationary engines

Meets U.S. Forestry Service Specifications



Improved Double Wall Construction permits much longer service between cleanings . . . prolongs life, reduces maintenance!

Cast Ductile Iron Vane lasts for life of unit—no loss of efficiency due to corrosion!

Eliminates Need for Muffler on off-highway equipment!

Smaller, More Compact Design!

Can Be Installed Horizontally or Vertically . . . and in the line or at exhaust!

Less Back Pressure than conventional models!

Sizes to fit most exhaust systems!

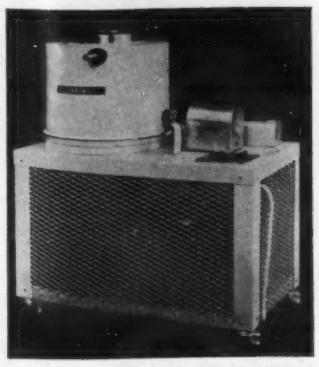
Write for further details and complete specifications!

OTHER AIR-MAZE PRODUCTS:
Air Filters • Liquid Filters • Intake Silencers
Exhaust Spark Arresters • Breather Filters • Oil Mist Eliminators

AIR-MAZE CLEVELAND 28, OHIO
A SUBSIDIARY OF ROCKWELL-STANDARD

▲ For more details circle NED-905 K on enclosed inquiry slip ▲

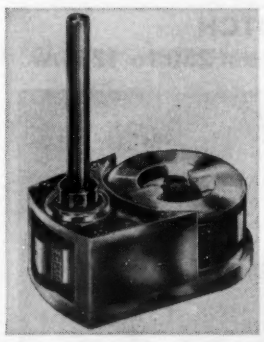
PORTABLE FREEZER
for storage or brine chilling



Refrigerating unit with Freon 22, sealed compressor with a 1/3 hp motor, 7 1/8 x 8 3/4-in. stainless steel drum, circulating pump, and inlet and outlet fixtures, all mounted on a rigid frame with four rubber casters comprise the Circu-Freeze portable freezer. The 24 x 14 x 29-in. unit may be used as a dry air storage unit to −60° F or as a circulating brine chilling device to −30° F. Chilling drum has a 6-qt capacity. Price is $645. • **Instrumentation Associates, Inc.**, 17 W. 60th St., New York, N. Y.

▲ For more details circle NED-906 K on enclosed inquiry slip ▲

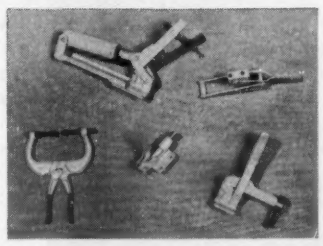
CODING-PRINTING ATTACHMENTS
for packaging machines, conveyors



Roll of Porelon solid ink used on the Teko Model 100 coders and printers for attachment and synchronization to packaging machines or powered conveyors will not drip, evaporate, or gum up. A micro-porous, micro-reticulated plastic, the self-contained roller can be changed in less than 10 sec when the quick-drying ink is exhausted. The high speed attachments print on boxes, cartons, kraft paper, and other porous and semiporous surfaces. They measure 7 x 4 3/8 x 3 in., have an 8-in. long drive shaft, and printing head diameters of 6, 8, and 10 in. They will print from any position onto any side of a package. Up to 250,000 impressions are obtained from a single Porelon roll. • **Thomas Engineering Co.**, 9257 N. Laramie Ave., Skokie, Ill.

▲ For more details circle NED-907 K on enclosed inquiry slip ▲

TOGGLE ACTION CLAMPS
made in various styles, pressures

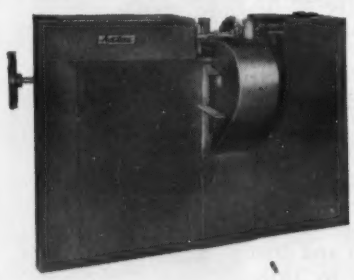


Positive locking action with a minimum of force required for locking and unlocking is provided by Uni-Klamps, a series of toggle action clamps for welding, drilling, milling, gluing, grinding, riveting, machining, and assembly operations. They have a tempered alloy steel handle covered with red vinyl plastic and a one-piece cast malleable base. The wide bearing support link gives a large bearing surface. Photo shows a few of the styles available, including bottom base and side mounts, portable, push-pull, toggle-C, latch, bottom, face mount, and air-operated types. Holding pressure ratings are from 200 to 2000 lb, according to size and model. • **Universal Engineering Co.**, Frankenmuth, Mich.

▲ For more details circle NED-908 K on enclosed inquiry slip ▲

SILK SCREEN PRINTER
reproduces trademarks on products

Trademarks, logotypes, nameplates, operational instructions, labels, dials, and clock faces are reproduced directly on products or components by this automatic silk screen printer.

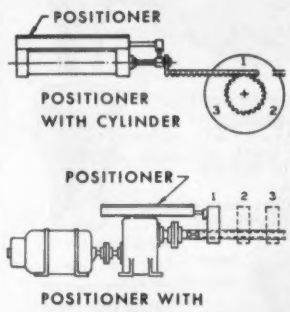


Electronic applications include printed circuits, wiring diagrams, conductive coatings on ceramic discs and mica capacitors, and resistance coatings on ceramics and phenolics. The 54 x 42 x 22-in. machine prints an area up to 3 sq in. with accuracy within 0.004 in. It will print any flat surface that will take paint, regardless of material or color. Different size objects can be printed merely by switching silk screen frames, jigs, and tools. • **Automation Equipment, Inc.**, 51 Prince St., Wallingford, Conn.

▲ For more details circle NED-909 K on enclosed inquiry slip ▲

POSITIONING!

A NEW IDEA FOR MULTIPLE POSITIONING IN A LOW COST PACKAGE!



HANNA-POWR® POSITIONERS are simple, low cost, servo mechanisms used with power cylinders, electro-mechanical, or other drives to achieve predetermined positions. Switches, timers and others signal the POSITIONER for station selection, up to 14 per foot, in lengths from inches to several feet. Simple adjustments allow infinite positions. HANNA-POWR® POSITIONERS save space, time, design cost and economically convert manual controls to automatic.

What is your problem? Tell us or ask your Hanna "Rep" to help you with it.

Write for NEW Bulletin No. 500 for details.

HANNA ENGINEERING WORKS
HYDRAULIC AND PNEUMATIC EQUIPMENT • CYLINDERS • VALVES
1759 Elston Avenue • Chicago 22, Illinois

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Most Complete Line of Specialty Turrets on the Market!

. . . All Rockwood Turrets discharge FogFOAM, Solid FOAM Stream, WaterFOG, Solid Water Stream. You name it — Rockwood's got the turret —

- **Portable Type**—Off the truck and into action in seconds! Goes wherever a fire fighter can bring the proper hose line into action!
- **Direct Manual Control Type**—Gives fire fighters "out-in-the-open" control from cab roof!
- **Remote Manual Control Type**—Easily handled by man in driver's seat. Ideal for fast action!
- **Extended Manual Control Type**—Turret nozzles extend 10 to 20 feet above remote control station on deck or ground on standard units . . . greater remote extensions for special applications.
- **Remote Hydraulic Control Type** — Power-controlled from within the cab. Single and dual models. Widely used on air crash rescue fire-fighting trucks.

Get full details on the complete line of fire-fighting products. Write Rockwood Sprinkler Division, Portable Fire Protection Division, 564 Harlow Street, Worcester 5, Massachusetts.

ROCKWOOD SPRINKLER DIVISION
of The Gamewell Company • A Subsidiary of E.W. Bliss Company
Engineers Water . . . to Cut Fire Losses
Distributors in all principal cities

▲ For more details circle NED-911 K on enclosed inquiry slip ▲

FREE MARKAL PAINTSTIK!

We will send you without cost or obligation a MARKAL PAINTSTIK. They are available in various types suitable for marking on any kind of material. Hot surfaces up to 2100°F, also welding and heat treating. Cold surfaces down to —50°F, wet, dry, icy, oily, rough, smooth, acid or alkali. ***MARKS Are Permanent, Fadeproof, Weatherproof.*** Specify surface condition, material, temperature at time of marking.

Cold . . . down to —50°F. Hot . . . up to 2100°F.

USE THIS COUPON OR WRITE ON YOUR LETTERHEAD!

Here's what I want to mark: _____

Marking Temperature _____ Max. Temp. _____ °F.
Name _____
Company _____
Address _____
City _____ Zone _____ State _____
My Distributor's Name _____

MARKAL COMPANY See Us At The Metals Exposition—Booth 1450
3053 West Carroll Avenue • Chicago 12, Illinois

▲ For more details circle NED-912 K on enclosed inquiry slip ▲

HANSEN
SERIES HK® QUICK CONNECTIVE
TWO-WAY SHUT-OFF COUPLINGS

QUICK CONNECTION
with instant automatic flow

QUICK DISCONNECTION
with instant automatic shut-off
... prevents loss of liquid, gas, or pressure.

Hydraulic and pneumatic lines are quickly and easily connected with Hansen Series HK Two-Way Shut-Off Couplings. No tools required.

When Coupling is disconnected, valves contact valve seats in both Socket and Plug—instantly shut off both sides of line—prevent loss of liquid, gas, or pressure. Coupling does not depend upon line pressure to seal either end of line.

Available in brass or steel, with female pipe thread connections from 1/8" to 1½" inclusive.

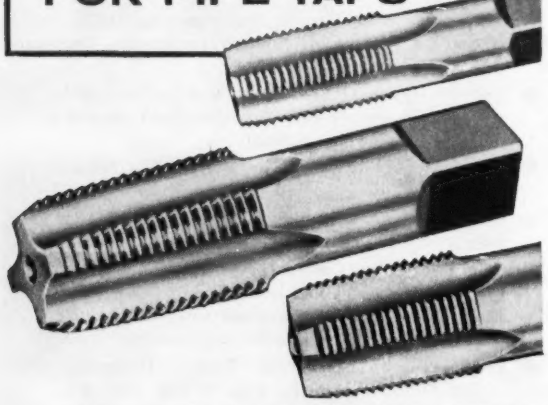
Write for Hansen Catalog — a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle **NED-913 K** on enclosed inquiry slip ▲

DRILLING?
FOR PIPE TAPS



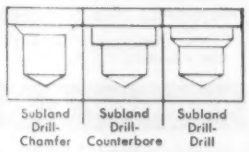
DO IT RIGHT WITH MOHAWK
STANDARD SUBLAND DRILLS

Fast and economical, too! With a Mohawk Standard Drill-Chamfer subland, you drill and chamfer simultaneously . . . all in one operation.

You do the job *right* and save the extra tools, the jig and fixture movement, working time and eliminate tap breakage as well as scrapped parts. All this . . . plus the bonus fact that *one* Mohawk "standard" will outwork and outlast dozens of ordinary drills because Sublands have cutting flutes for each diameter, they can be resharpened (in your plant) without losing concentricity.

There's no excuse . . . Mohawk "standards" are available in all sizes, types or combinations in both factory and local stocks. You can start to save the Mohawk way—today!

MOHAWK STANDARD SUBLANDS are stocked in three basic types in three step lengths and three shank styles.



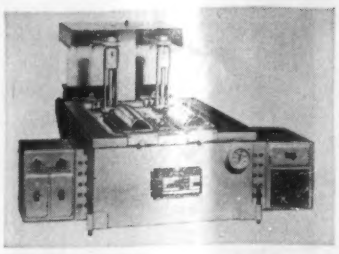
world's largest producer of Subland Drills

Mohawk TOOLS, Inc.
Montpelier, Ohio

... your new catalog of Mohawk "Standards" is awaiting your request.

▲ For more details circle **NED-914 K** on enclosed inquiry slip ▲

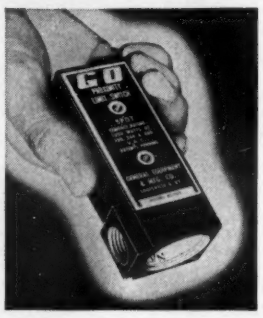
SOLDERING MACHINE speeds printed circuit work



Dual Wave printed circuit soldering machine utilizes two sets of individual pump-fountain combinations and variable drive assemblies to eliminate need for hand dipping. Waves lift solder up to the board to be soldered at angles of 60 degrees to horizontal, and flow is toward each other, or from outside to inside. As the panel emerges from the second wave a solder wiping action removes excess solder. Wave length of 10 in. can be shortened. Machine produces a minimum of warpage as only 1½ in. maximum width of solder touches the board at one time. Size is 40 x 35½ or 21 x 18 in. Power requirement of the 8½ in. high, 320-lb solder capacity pot is 5100 w. Operation is on 220, 440, or 550 v. • **Dee Electric Co.**, 1101 N. Paulina St., Chicago 22, Ill.

▲ For more details circle **NED-915 K** on enclosed inquiry slip ▲

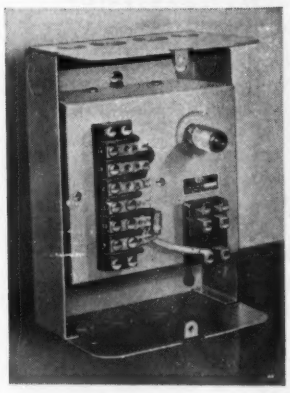
PROXIMITY LIMIT SWITCH rating increased from 250 to 1250 w



Contact assembly of the GO proximity limit switch has been redesigned for high shock applications. Its rating has been increased from 250 to 1250 w at 120, 240, and 480 v ac. A self-contained set of contacts operates without physical contact with the actuating means. Hermetically sealed in a 1½ x 1½ x 4½-in. brass housing, it is impervious to climatic conditions, oils, and coolants in forging equipment, punch presses, lift hoists, conveyor transfers, and foundry applications. • **General Equipment & Mfg. Co.**, Dept. 8TP, 116 S. Campbell St., Louisville 6, Ky.

▲ For more details circle **NED-916 K** on enclosed inquiry slip ▲

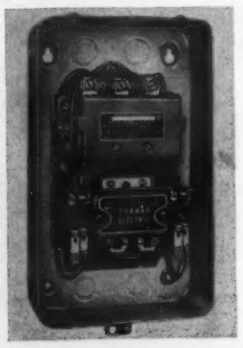
LIQUID LEVEL CONTROL for medium-high resistance liquids



Low electrode potential of 9 v dc and low electrode current of less than 1 ma eliminate all shock and sparking hazards in installations of the Type 50-201 electronic floatless liquid level control. Developed for liquids of medium to high specific resistance up to 12.5 megohms, it is fail-safe in both direct and inverse operation. Ordinary and deionized water, alcohol, glycols, and anhydrous ammonia are typical controllable liquids. Various bulk materials with low moisture content can also be controlled. System can be operated over leased telephone lines or other lead wires with the control unit located several miles from the electrodes. • **B/W Controller Corp.**, 2200 E. Maple Rd., Birmingham, Mich.

▲ For more details circle **NED-917 K** on enclosed inquiry slip ▲

MOTOR STARTERS have thermal overload relays



All components of size 2 and 2½ magnetic motor starters for 10 to 25 hp and 15 to 30 hp, 550 v, respectively, are removable from the front. Plug-in type pushbuttons, selector switches, and a third overload are easily added in the field. Thermal overload relays with trip indicator are trip-free and tamperproof. Magnet coils are molded dual voltage type (110/220 or 220/440) and dual cycle (50-60). Up to three auxiliary interlocks for pilot duty may be added. Other features include low wattage magnet, silver-cadmium oxide contacts, pressure terminals, fungus resistant coil, and identical mounting area for both sizes. Units are available for two, three, or four-pole applications. • **Furnas Electric Co.**, 1009 McKee St., Batavia, Ill.

▲ For more details circle **NED-918 K** on enclosed inquiry slip ▲

this new Brook totally enclosed fan cooled, single phase motor has

Brawn and Brains

The BRAWN is in the rugged design, producing cool operation and long service life and in the housing, which keeps out dust and moisture . . . and the external fan which blasts cooling air over the heat dissipating fins on the housing.

The BRAIN is in the external centrifugal switch which positively disengages when motor has attained pre-set speed. Switch is on outside of motor for accessibility . . . just remove cap. No need to disassemble the motor or remove it from line for switch repairs. Same switch fits all sizes of motors . . . 1 to 5 HP. You get real economy where dust, fumes or moisture are a problem. Dealers everywhere. Send for literature.

"World's Most Respected Motor"
BROOK MOTOR CORPORATION
3302-04 W. Peterson Ave., Chicago 45, Ill.
In Canada: Brook Electric Motors of Canada, Ltd. 250 University Avenue, Toronto

SINCE 1904 BROOK ELECTRIC MOTORS

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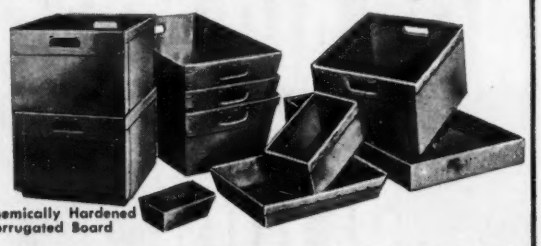
Money talks today:

WHY BUY EXPENSIVE TOTEBOXES WHEN CONVOYS* DO A FINE JOB . . .



*Chemically Hardened Corrugated Board

Low cost, light weight, sturdy, rigid. Wide variety of stock styles and sizes to fit your need exactly. Special shapes quickly and economically made in any quantity because die cost is negligible in our "Chem-Board" process.

More and more famous name industries are using Convoy Tote Boxes. Try us.

CONVOY, INC.
CANTON 6, OHIO
P. O. STATION B, BOX 216-N
GReenwood 7-4569

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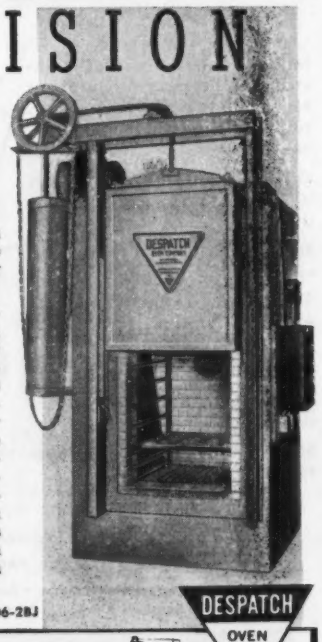
PRECISION HEAT TREATING FURNACE



There's a Despatch heat-treating furnace to suit your particular job.

Ten standard models are available with capacities of 8 to 96 cubic feet. Temperature maximum is 1350°F. Gas or electricity may be used for heating. Use of the highest quality materials throughout insures lifetime dependability and precision control. Despatch has been serving American industry for more than 58 years.

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Laboratory ovens · Burn-off ovens · Sterilizers · Drawer ovens · Pot-type furnaces · Box furnaces · Walk-in batch ovens

DESPATCH OVEN CO. 619 S.E. 8th St., Minneapolis 14, Minn.

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the right disc surface can lower your abrasive costs!

There's a Gardner disc surface to fit every job...

Send today for your copy of Catalog AC-57. Helpful data on selection and performance.

GARDNER abrasive discs

460 Gardner St.
Beloit, Wisconsin

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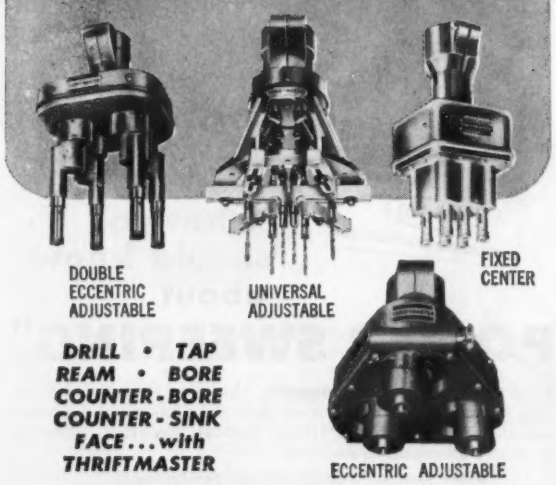
DRILLHEADS
ARE OBVIOUS.

...Tremendous economies from the use of multiple-spindle drillheads are obvious. Drilling one hole at a time cannot be tolerated in this day of automation!

THOMSON
THRIFTMASTER DRILLHEADS
... are your best Drillhead buy...

1. They are better built and cost no more (Full ball bearing construction, hardened gears, spindles and driver, and precision grinding!)
2. This means they last longer
3. This eliminates down time
4. This eliminates production losses
5. This drastically reduces drilling costs

THOMSON
THRIFTMASTER DRILLHEADS
... are designed and produced by engineers whose experience in this specific field dates back to 1923. This long accumulation of engineering technique and production "know-how" is reflected in our product—a quality tool...solid, substantial and dependable!



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COUNTER-BORE
COUNTER-SINK
FACE...with THRIFTMASTER

Ask NOW for our new catalog!

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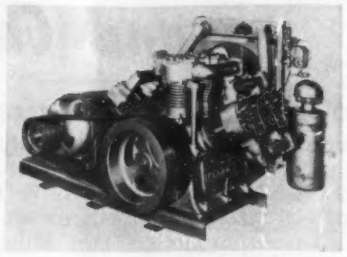
Phone EXpress 2-2101

Also Makers of DORMAN TAPPERS

Subsidiary of THOMSON INDUSTRIES, INC.
makers of BALL BUSHINGS NYLINERS 60 Case Shafting

▲ For more details circle NED-923 K on enclosed inquiry slip ▲

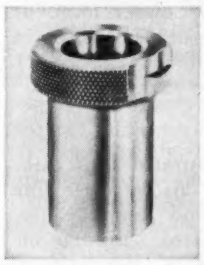
AIR COMPRESSORS
100-psi models in 25 to 100-hp range



Two-stage air-cooled C-Line of 100-psi air compressors feature intercooling between stages, large valve areas and air passages, and lightweight, compact construction. They are made in the 25, 50, 75, and 100-hp sizes. W-type construction minimizes floor space requirements. Indoor or outdoor installation may be on a good concrete floor or relatively thin concrete slab. Single-acting low and high pressure cast iron cylinders are individually removable. A constant speed load and unload device is standard. For intermittent operation, an optional dual control permits start-stop duty for both motor and compressor or continuous motor operation and free air compressor unloading. Compressor, compressor on base, and packaged unit with motor are available. • **Clark Bros. Co.**, Box 560, Olean, N. Y.

▲ For more details circle NED-924 K on enclosed inquiry slip ▲

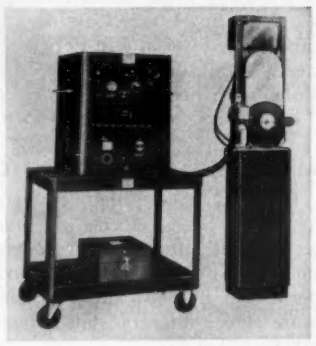
DRILL JIG BUSHINGS
made from nondeforming tool steel



Longer wear without additional cost is advantage afforded by drill jig bushings made of Graph-Mo, an oil hardening, nondeforming tool steel with high resistance to abrasion. A controlled chemical composition makes possible the precipitation of graphite from the total carbon content during mill processing. Steel is produced on special forging, rolling, and furnace equipment to retain high antifrictional properties. • **Acme Industrial Co.**, 200 N. Laflin St., Chicago 7, Ill.

▲ For more details circle NED-925 K on enclosed inquiry slip ▲

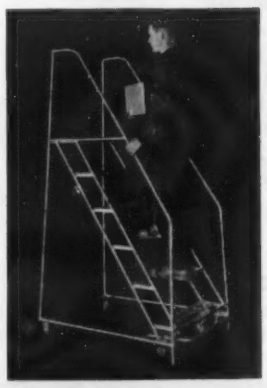
WIRE FLAW DETECTOR
spots flaws at production speeds



Open surface flaws over 0.004 in. deep in up to 1-in. magnetic or nonmagnetic cold-drawn steel wire are detected by the Rototester at production speeds to 200 fpm as wire emerges from die. At this speed, flaws 1 in. and longer are detected. Rotating head mechanism, using and eddy-current technique, mounts directly on the draw block and rotates around the drawn wire. Flaws are indicated by a visual light and audio signal, are shown on an oscilloscope screen, and are marked by paint spray. Use of a recorder will show magnitude or frequency of faults and a predetermined counter will energize an alarm when faults per coil exceed a preset number. • **Magnetic Analysis Corp.**, 42-44 12th St., Long Island City, N. Y.

▲ For more details circle NED-926 K on enclosed inquiry slip ▲

ROLLING STEP PLATFORM
in working heights to 15 ft



Working heights to 15 ft are available in line of steel rolling step platforms which feature a flared base for stability and a caster locking device on 6 to 12-step models. Device automatically locks ladder to floor when user mounts the first step. One through 5-step models are equipped with spring-loaded casters. Painted in safety yellow or aluminum, platforms are available with safety treads of expanded metal (standard), nonslip rubber, or antiskid grating. Hand rails are provided on several 2 to 4-step units and all 5 to 12-step models. Prices begin at $12.75. • **Louisville Ladder Co.**, 1101 W. Oak St., Louisville 10, Ky.

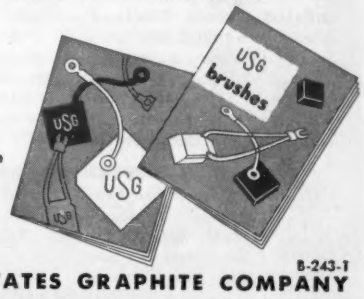
▲ For more details circle NED-927 K on enclosed inquiry slip ▲

USG®

BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.



B-243-1
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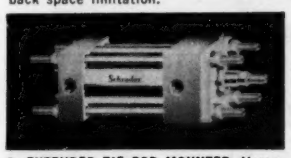
▲ For more details circle NED-928 K on enclosed inquiry slip ▲

SCHRADER SQUARE END CYLINDERS NOW HAVE 3 NEW MOUNTINGS

1. ANGLE BRACKET MOUNTED. Can be repositioned to tie rods on any side of cylinder with respect to ports providing for easy piping from any direction.

2. SIDE LEG MOUNTED. For use where strong, rigid, in-line mounting is desirable, or where application has front-to-back space limitation.



3. EXTENDED TIE ROD MOUNTED. Versatile mounting for either front, back, or both ends in straight line applications. Cut off unwanted rod extension.

MEET AND EXCEED JIC specs ... 250 psi air ... 750 psi hydraulic. Double acting cylinders cushioned or non-cushioned ... give compact, versatile straight line power. USE FOR holding, positioning, moving work ... to push, pull, lift, or automate manual operations. ALSO MOUNT 4 other ways: bolt, flush, side flush and base.

WRITE for FREE COPY of new JIC Cylinder catalog insert. Complete stocks available locally, plus expert help with air circuitry.

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A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

▲ For more details circle NED-929 K on enclosed inquiry slip ▲

It's what's inside RCA's Transistorized "LD" 2-Way Radio *that makes it your* GREATEST VALUE!

Priced lower than other Transistorized 2-way radio equipment—comparable in cost to conventional tube-type radios.

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Communications Products, Dept. M-329
24 Murdock St., Canonsburg, Pa.
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RCA Tmk(s) ® RADIO CORPORATION OF AMERICA
Communications Products
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3000% more Grinding/Finishing/Polishing production!

You can boost grinding, finishing or polishing output up to 3000% on flat work, 600-700% on contours, by backing up your coated abrasives with VALCORE inflated wheels. Resilient contact drum puts more abrasive against the work . . . absolutely prevents band slippage . . . eliminates undercuts . . . avoids chatter and bounce . . . produces straight-pattern finish. Use VALCORE on portable tools or benchstands for all abrasive operations from moderate stock removal to fine micro-finishing.

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RAYMOND ELECTRIC TRUCKS

PLATFORM TIERING TRUCK
For production floor use, plus warehousing and shipping. Stacks in 5' aisles. Telescopic models: 2,000; 3,000 or 4,000 lb. cap. Non-telescopic: 2,000 or 4,000 lbs. cap.

STRADDLE TYPE TIERING TRUCK
Right-angle tiers from 6' wide aisles. Increases warehouse capacity up to 50%. Telescopic and Non-telescopic models. Capacities: 2,000; 3,000 or 4,000 lbs.

REACH-FORK TIERING TRUCK
The "Truck with Boarding House Reach". Operates in 6' aisles with existing racks and pallets. Forks reach out 24" to pick up or deposit load. Telescopic, Non-telescopic models. Cap: 2,000 to 4,000 lbs.

WALKIE
Operates on two 12-volt industrial batteries or four 6-volt golf cart batteries. Packs twice the power of ordinary walkies. 3 speeds. Exclusive safety control. 4,000 lb. capacity.

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4129 Madison St., Greene, N.Y.
Please send Bulletins on RAYMOND Electric Trucks checked below:

☐ Straddle Type Tiering Truck ☐ Walkie Electric Truck
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NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-932 K on enclosed inquiry slip ▲

New Literature and Catalogs

Quick-Change Tool Posts & Tool Holders

Ronson Hydraulic Units Corp.—Bakewell Master tool posts and tool holders described in 4-page illustrated bulletin fit any make or model lathe. These rigid accessories reportedly cut set-up time 50 per cent and speed up machining by 30 per cent.

▲ For more details circle NED-933 K on enclosed inquiry slip ▲

Pressure Reducing Valves

Warren Engineering Co.—16-page condensed Bulletin 402 is descriptive of line of pressure reducing valves for steam, water, air, gas, or other fluid service. Technical table gives capacities for various sizes at different reduction ratios.

▲ For more details circle NED-934 K on enclosed inquiry slip ▲

Guide to Solid Lubricants

Alpha-Molykote Corp.—"What is Molykote?" is title of 24-page guide to the properties and applications of various forms of this line of solid lubricants. They afford low coefficient of friction, natural affinity for adherance to metal surfaces, and pressure resistance beyond the yield point of any metal. Molybdenum disulfide lubricants are available in powder form, as greases, as resin-bonded coatings, as dispersions, or in various special forms. Ask for Bulletin 125.

▲ For more details circle NED-935 K on enclosed inquiry slip ▲

Electronics Equipment

Allied Radio Corp.—576-page illustrated 1961 catalog contains details and prices for an extensive line of electronic, radio, high fidelity, and testing equipment. Over 40,000 products are listed. Listings include diodes, transistors, panel meters, transformers, capacitors, printed circuit components, timers, batteries, microphones, over 60 electronic kits, and technical books.

▲ For more details circle NED-936 K on enclosed inquiry slip ▲

Throw-Away Insert Milling Cutters

Valeron Corp., Valenite Metals Div.—Nearly 500 throw-away type insert milling cutter styles and sizes are listed in 24-page Catalog VMU 60-A. Cutter bodies, cartridges, inserts, and accessories for milling cast iron, steel, aluminum, and nonferrous metals are detailed along with pertinent technical cutter data.

▲ For more details circle NED-937 K on enclosed inquiry slip ▲

Air Conditioning Terminal Controls

Carnes Corp.—Line of acoustic terminal control units for all-air high velocity air conditioning systems is described and illustrated in 32-page Catalog 1160. Specifications of three ceiling models and two window-perimeter models, plus engineering data on system noise and tables of static-pressure losses and regains, are included.

▲ For more details circle NED-938 K on enclosed inquiry slip ▲

Drafting Pencils

J. S. Staedtler, Inc.—Among the 81 items for engineers, architects, and draftsmen described in 24-page catalog are Mars-Lumograph Duralar pencils for work on drafting film, Mars-Lumochrom pencils for color coding on tracings, and nonreproducing pencils for making temporary work notes on drawings. Other drafting pencils, leads, and holders are also described and illustrated.

▲ For more details circle NED-939 K on enclosed inquiry slip ▲

Organic & Inorganic Chemicals

Hooker Chemical Corp.—Factual information on 88 commercially produced organic and inorganic chemical and six development products is found in 16-page Bulletin 100-D. Acids, alkalies, chlorine and phosphorus, metallic salts, phosphorus compounds, sulfur compounds, chlorides, and chlorobenzenes are among those whose physical data, chemical formulas, uses, and weights are presented.

▲ For more details circle NED-940 K on enclosed inquiry slip ▲

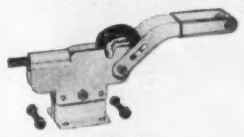
Self-Adjusting Ultrasonic Cleaning

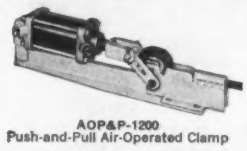
Powertron Ultrasonics Corp.—Bulletin 60-1 is entitled "How to Clean Ultrasonically With Self-Tuning." It explains various models of this ultrasonic cleaning equipment and how it self-adjusts to needs of the job to be done without operator attention. More than 20 different common contaminants which can be removed ultrasonically and the correct cleaning solutions and temperatures to be used are charted.

▲ For more details circle NED-941 K on enclosed inquiry slip ▲

NOW! KNU-VISE GIVES YOU PUSH-PULL CLAMP CONTROL

P&P-1200
Hand Push-and-Pull Clamp


P&PSB-1200
Hand Push-and-Pull Swivel-Base Clamp


AOP&P-1200
Push-and-Pull Air-Operated Clamp

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Push the handle! Pull the handle! It makes no difference—the new Knu-Vise clamps by Lapeer give you uniform clamping of parts. That's real performance! Look at these features—

90° handle motion produces lock of plunger for push or pull without resetting of handle. Handle is reversible. Plunger guided by two widely separated, hardened steel bushings for accuracy in motion and minimum wear. Built-in deflection provides uniformly tight clamping of parts with normal variation in thickness. Swivel base model provides 90° total change in direction of plunger motion. The air (or oil) operated model, AOP&P-1200, produces approximately 4½ times the clamping force with 85 p.s.i. than the cylinder would alone. Failure of air (or oil) pressure does not permit reverse motion of plunger, thus not affecting clamping force.

All parts easily replaceable.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

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CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1131 Pettit Road, Burlington, Ontario

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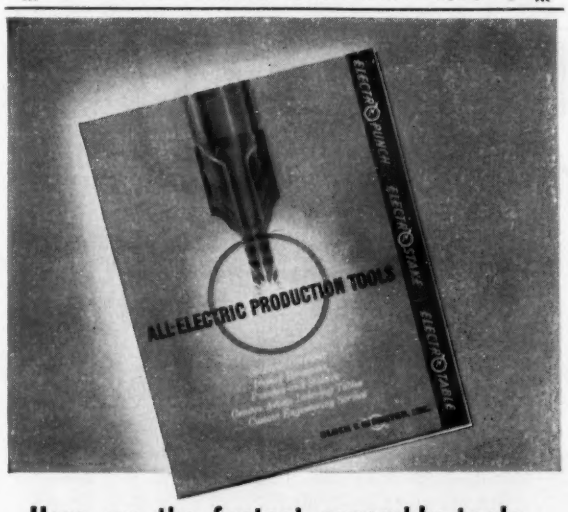

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If you want to speed up production and cut costs in a wide variety of assembly operations requiring staking, crimping, swaging, riveting, peening as well as marking and punching, write for this new, complete Black & Webster catalog, describing the most modern, fastest all-electric assembly tools in their class. Write:

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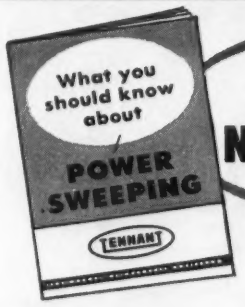

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A "must" for modern maintenance, this new 12-page booklet tells how vacuumized* power sweeping has revolutionized maintenance methods. Gives concise, practical answers to many sweeping questions:

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Plus: Typical in-use photos . . . diagrams of soilage pickup systems. Basic facts on typical sweeper performance . . . power used . . . accessories available. *Write today! Free!*

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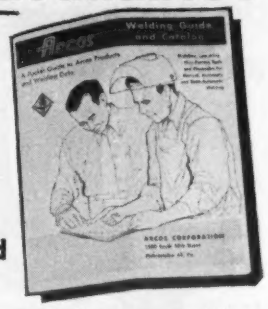

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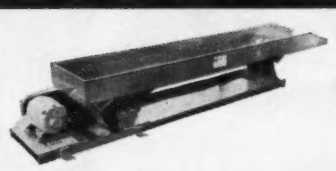
PRAB PRECISION ENGINEERED Specialized CONVEYING EQUIPMENT

MAGNAVATOR a magnetic parts elevator

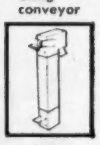


TUBE-VEYOR an enclosed bulk handling conveyor

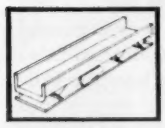
PARTS FEEDING CONVEYOR

PRAB "Vibra-Power" OSCILLATING CONVEYORS

Here simplicity of construction results in low initial cost and minimum maintenance. Gentle action allows handling of fragile materials. Because there is no dragging or squeezing, abrasive material can be handled easily. The "Vibra-Power" is sanitary—inherently self-cleaning and can be totally enclosed to eliminate dust, liquids, smoke or germs.



BUCKET ELEVATOR



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Representatives in Principal Cities

PRAB CONVEYORS, INC. PRAB Products Mfd. under Pats.
30119 GROESBECK HWY ROSEVILLE (Detroit), MICH

▲ For more details circle NED-946 K on enclosed inquiry slip ▲

New Processes and Materials

PIPE JOINT COMPOUND
prevents seizure at high temperature

UL-listed for propane, butane, gasoline, and petroleum oils, No. 838 Anti-Seize Joint Seal is suitable for use on any threaded material at extreme temperatures. The flexible compound consists of 70 per cent pure metallic lead suspended in a nonvolatile hydrocarbon. It prevents seizure and galling and is noncontaminating, noncorroding, and nonpoisonous. Even when exposed to atmosphere, it will not deteriorate, dry out, or harden. • **Buckeye Iron & Brass Works**, Box 883, Dayton 1, Ohio.

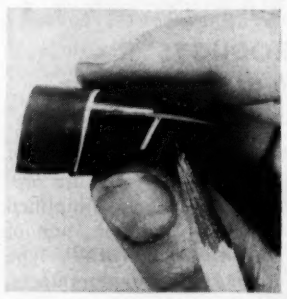
▲ For more details circle NED-948 K on enclosed inquiry slip ▲

BLACK METAL COATING
protects against rust and weather

Impervious to water and resistant to chemical attack by gas fumes and smoke, Everwear J-41-B paint produces a bright ebony-black finish on metal. It can be used with minimum surface preparation, and is reportedly anticorrosive above or below grade. Suited for use on tanks, metal roofs, siding, drains, pipelines, cables, machinery, and structures, it remains elastic to expand and contract with extreme temperature changes. It dries quickly, is applied by brush or spray, and is packaged in 5-gal pails and 55-gal drums. • **Maintenance, Inc.**, Wooster, Ohio.

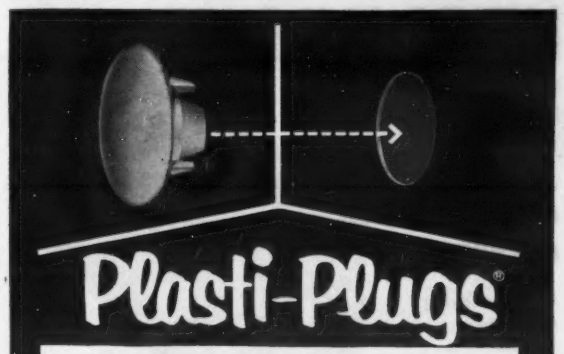
▲ For more details circle NED-949 K on enclosed inquiry slip ▲

INSULATING TAPE
self-adhering silicone rubber type



Triangular cross section of Level-Wrap self-adhering, unsupported, silicone rubber insulating tape permits it to be wound on irregular shapes. Tape is as thick at its apex as the required total insulation thickness. When wrapped in overlapping halves, the tape gives smooth, even external surfaces. A colored center line guides the overlapping. It has good thermal stability, corona and moisture resistance, and tensile strengths from 9 to 58 lb. Eight grades range in width from 1 to 1½ in. and in apex thickness from 0.020 to 0.080 in. Tape is furnished in 12-yd rolls with an interleaf of polyester film. • **Continental-Diamond Fibre Corp.**, Newark, Del.

▲ For more details circle NED-950 K on enclosed inquiry slip ▲



Plasti-Plugs®

45 STANDARD SIZES

FASTEX® Plasti-Plugs® snap-in type plastic plugs—are available for a wide range of applications, including:

- Ventilation Holes
- Access Holes
- Sealing Plugs
- Frictionless Glides
- Indicator Buttons
- Appliance Feet
- Spacer Buttons
- Conduit Holes

Available in several plastic materials, Plasti-Plugs can be color-matched to your product saving expensive rack painting, and they just snap in.
Write for FREE Plasti-Plug Folder.

FASTEX
195 Algonquin Road, Des Plaines, Illinois
In Canada: SHAKEPROOF-FASTEX, Division of Canada Illinois Tools Ltd., Toronto, Ont.
A DIVISION OF ILLINOIS TOOL WORKS

▲ For more details circle NED-951 K on enclosed inquiry slip ▲

Jomac gloves stand up under treatment that even expensive leather gloves couldn't take!

The test shown above, in which a razor blade is drawn sharply across a Jomac glove without ill effect, shows the remarkable cut resistance of Jomac's loop-pile fabric . . . *protection that even leather doesn't afford.*

Moreover, Jomac gloves *wear longer* than leather gloves and provide a *better grip* on oily surfaces. And most Jomacs—like the HR gloves shown above—are reversible . . . so any two make a pair, any pair gives you four working surfaces.

Write today for free literature. Describe working conditions and materials handled: we'll make specific recommendations.

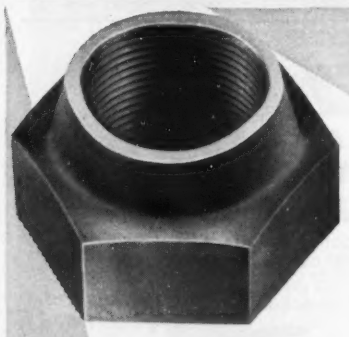
Jomac also makes a complete line of North PVC-coated gloves

JOMAC INDUSTRIAL GLOVES

Jomac Inc., Dept. G, Philadelphia 38, Pa.

▲ For more details circle NED-952 K on enclosed inquiry slip ▲

New One-Piece "Conelok" with prevailing torque



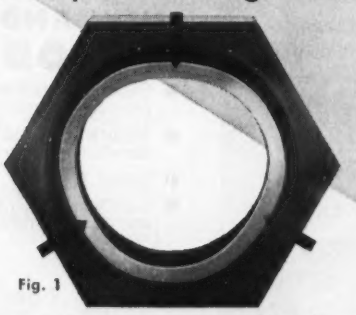


Fig. 1

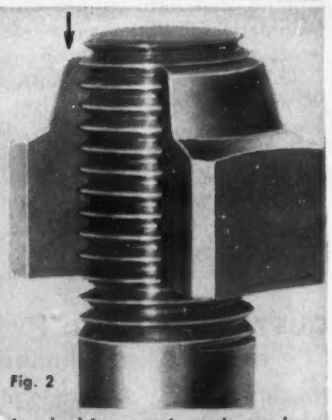


Fig. 2

Three sectors of the tapered portion of the CONELOK nut are preformed inwardly (Fig. 1). When the Nut is applied to a bolt, these conforming sectors are elastically returned to a circular configuration and create an inward and downward pressure which produces intimate contact between the load carrying flanks of the nut and bolt threads (Fig. 2). The shape of the cone sector displacement insures conformity with the mating bolt and maximum friction contact area. . . . The closed stress path in the locking portion of the nut and the advantageous distribution of locking pressure, produce a locking device of high fatigue life . . . and equivalent locking force is exerted at only a fraction of the stress of any slotted type locknut. CONELOK maintains its locking action through many re-applications. . . . It is adaptable to high, and low torque assemblies . . . to high torque stop-nut applications . . . and may be obtained in sizes from No. 10 through 1½", Full and Thick dimensions are "Standard". . .

Send for brochure which includes complete engineering specifications.

NATIONAL MACHINE PRODUCTS COMPANY
an SPS company 44250 UTICA ROAD UTICA, MICHIGAN

▲ For more details circle NED-947 K on enclosed inquiry slip ▲

VIBRA-WASHER

. . . THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE

- Labor saving
- Automatic unloading
- For single or multi-stage operations
- No nesting of parts during cleaning or conditioning cycle
- Adjustable capacities to 10,000 lbs. per hour

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity TRADE MARK REGISTERED

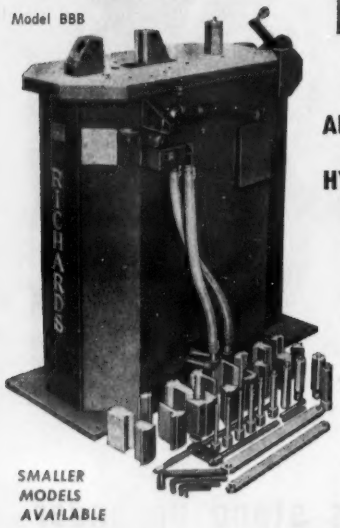
212 ENGINEERING COMPANY • DURAND 15, MICH.

▲ For more details circle NED-953 K on enclosed inquiry slip ▲

Multiform

BIG BROTHER BENDER

Model BBB



SMALLER MODELS AVAILABLE

Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

AIR OPERATED MODELS IN FOUR SIZES HYDRAULIC—3 MODELS

The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to ¼" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to ⅛" x 1½".

Send for illustrated folder M6

J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

▲ For more details circle NED-954 K on enclosed inquiry slip ▲

WRITE FOR CIRCULAR 240-B

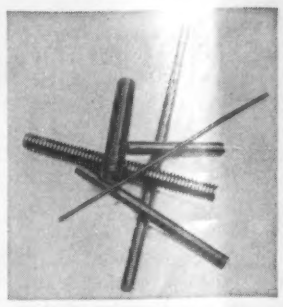
W-K-M DIVISION OF ACF INDUSTRIES INCORPORATED Dept. Z10, P. O. BOX 2117, HOUSTON, TEXAS

KP 6001R

▲ For more details circle NED-955 K on enclosed inquiry slip ▲

New Processes & Materials

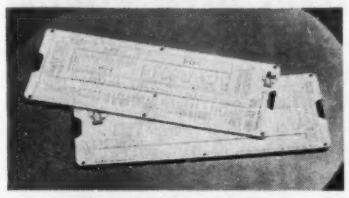
CONTINUOUS THREADED STUDS in lengths up to 12 ft



To help customers lower prices on competitive items, company is marketing universal continuous-threaded studs. Reportedly stronger, smoother, and less expensive than cut-thread studs, these studs are available in standard sizes and in lengths up to 12 ft. Special sizes, lengths, and materials can also be furnished. • **Highland Machine Co.**, 3215 Superior Ave., Cleveland 14, Ohio.

▲ For more details circle NED-956 K on enclosed inquiry slip ▲

STEEL STRAPPING CALCULATOR computes strapping cost per package



Steel strapping can be ordered according to requirements and advantageous prices with the help of this strapping calculator which deals with 27 stock sizes and kinds of Signode steel strapping. For any one size, it will compute the pounds of strapping needed for a given rectangular or round package; figure total strapping for a given production run; calculate strapping cost per unit for any package, as well as total strapping cost per unit for any package; compute cost-per-foot; show number of feet per pound and tensile strength for each size; and indicate quantities at which price breaks are available. • **Signode Steel Strapping Co.**, 2600 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-957 K on enclosed inquiry slip ▲

AEROSOL SPRAY PRODUCTS three types in 16-oz cans are for welding, machining, rust prevention

Removal of metal spatter after welding operations is simplified with Spatagon, one of three industrial type aerosol spray products. Sprayed on prior to welding, it forms a protective surface film that prevents spatter from adhering to metal. The nonflammable film requires no surface cleaning and may be painted over.

Micro-Finish is a slow evaporating cutting liquid for close tolerance machining operations and threading, tapping, and form cutting with difficult metals. The formulation of extreme-pressure agents reportedly will improve tool life and finish.

Third product is Anti-Rust, a water-displacing film for metal surfaces which gives corrosion protection to parts, machinery, and tools. It is easily removed by hot alkaline solvent or a vapor degreaser. All three products are packaged in 16-oz aerosol cans. Free sample is available upon request to the manufacturer. • **Pacific Petrochemicals, Inc.**, Box 900, Los Angeles 22, Calif.

▲ For more details circle NED-958 K on enclosed inquiry slip ▲

CUTTING OIL ADDITIVE extends life, eliminates odors

Noncorrosive W.S.G. lubricity stabilizer and odorless deodorant for addition to water soluble cutting oils will not stain any standard metal. It extends the effective life of such oils, eliminates foul odors and spoilage, and simplifies cleaning of machines. The nontoxic product will not injure eyes or skin and will not cause dermatitis. It is suited for use on grinding and standard cutting operations. Container sizes are 1, 5, and 55 gal. • **Fine Organics, Inc.**, 205 Main St., Lodi, N. J.

▲ For more details circle NED-959 K on enclosed inquiry slip ▲

SAVE — MONEY — TIME — ENERGY

LEXCO HYDRAULIC LIFT TABLES

Capacities 500# to 10,000#.

Portable, adjustable height, Hand or Foot Operated. For lifting and transporting heavy castings, dies, etc., to machines and Presses.

Also Die Handlers—Strip Stock Handlers—Roll Handlers.

LEXCO ENGINEERING & MFG. CORP.

23 W. Chestnut St. • Souderton, Pa.

▲ For more details circle NED-960 K on enclosed inquiry slip ▲

■ Here's a ruggedly built dock bumper that minimizes dock, truck and freight damage by absorbing the impact of trucks backing into docks. Easily installed on wooden or concrete docks, they are the only bumpers made from resilient reversible rubber reinforced fabric that give you double service life. The bumpers will remain resilient even when frozen . . . require no covering and will not flatten or pack.

Write for detailed literature and prices.

BUMPERS, INC. Subsidiary of Rowe Methods, Inc. 2534-D Detroit Ave. • Cleveland 13, O.

▲ For more details circle NED-961 K on enclosed inquiry slip ▲

Kinney®

PRESENTS A NEW AND BETTER McLEOD GAGE

- Separate capillaries mounted in precisely machined metal cones.
- Accuracy of Gage does not deviate when capillaries are replaced.
- Easier to read.
- Lightweight . . . sturdy . . . more compact . . . uses less mercury.

Above right—rear view showing holes for panel mount

The KINNEY McLeod Gage covers a broad range of pressures and provides accurate readings from 150 mm Hg to 1 micron Hg. Incorporating two separate capillaries having separate compression affords measurements of 150 mm to 2 mm, and 2,000 microns to 1 micron. Capillary tubes are separate and replaceable, and because they are reproducible, complete accuracy between each gage is assured.

Write for Bulletin 3821.1 today.

KINNEY VACUUM DIVISION
THE NEW YORK AIR BRAKE COMPANY

3612K WASHINGTON STREET • BOSTON 30 • MASS.

▲ For more details circle NED-962 K on enclosed inquiry slip ▲

CHART-PAK

TAKE THE "RUSH" OUT OF RUSH DRAWINGS WITH CHART-PAK TAPE! You can really bat out drawings with Chart-Pak pressure-sensitive tapes and sheets. You don't ink-in lines, bars, shapes and symbols. You *tape* them in! Fast! Chart-Pak materials reproduce beautifully, and stay stuck — even after repeated trips through hot reproduction machines. Yet you can peel them off slick and quick to make corrections. *Write for free folder,* "Visualization Made Easier." It helps you take the drudgery out of drafting.

DON'T DRAW IT . . .

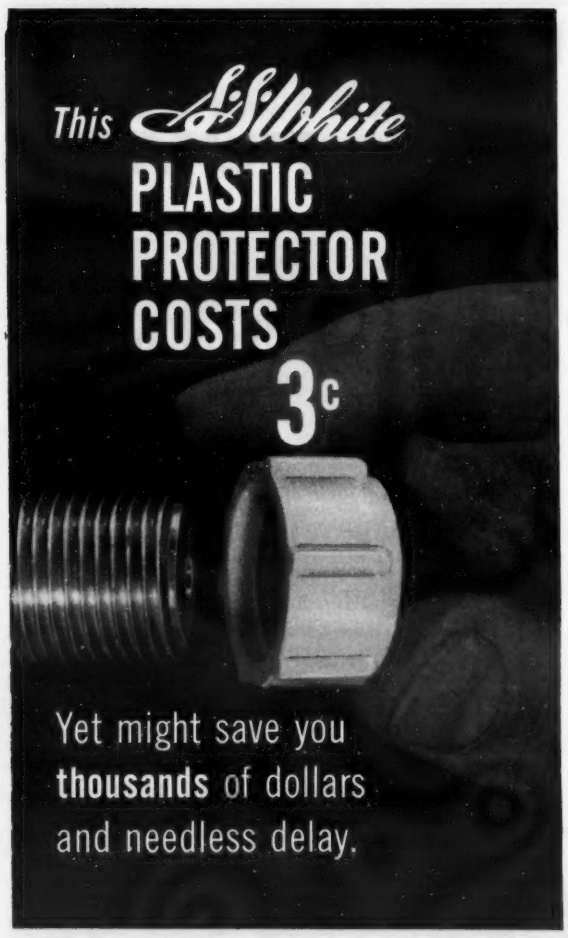
TAPE IT WITH

CHART-PAK

122 RIVER ROAD, LEEDS, MASS.

Dealers in all principal cities

For more details circle NED-963 K on enclosed inquiry slip



For mere pennies you insure yourself *and your customer* against damage to your products during shipping, storage, processing. The economic facts are that simple.

S. S. White rigid acetate **Quality Line,** plastic protectors absorb blows like a Champion Heavy-Weight. Impervious to acids, alkalies, greases and oils, they seal in fluids, seal out dirt, dust, and anything else that might damage expensive equipment. Note this too . . . they remove *by hand* in a matter of seconds . . . and leave no shreds behind.

For even lower cost protection, look into S. S. White **Economy Line** elastic vinyl protectors. A good shock-absorbing, rubber-like material with a non-slip grip that makes removal a snap. Stays put too. Customers like this; saves them hours of production time.

Start buttoning up customer good will today . . .

WRITE FOR FREE BULLETIN *5708 and Samples*

S.S.White PLASTICS DIVISION

Dept. 7P, 10 East 40th Street, New York 16, N.Y.

For more details circle NED-964 K on enclosed inquiry slip

New Literature & Catalogs

Electric Motor Controls

Furnas Electric Co.—Descriptions, ratings, and prices for manual and magnetic starters, drum controllers, and pressure, foot, and limit switches are among contents of 56-page illustrated pocket-size Booklet 60. Also included are pushbuttons, related pilot devices, and motor rating and heater coil data. Simplified tables facilitate control selection.

For more details circle NED-965 K on enclosed inquiry slip

Crusher Selection Guide

Bath Iron Works Corp., Pennsylvania Crusher Div.—A good guide to preliminary crusher selection is 16-page Bulletin 4020 which describes each type of crusher in company's line and indicates typical applications. Units described are for primary, secondary, and fine reduction of rocks, stone, chemicals, and ores. Guide is also keyed to bulletins with more detailed information.

For more details circle NED-966 K on enclosed inquiry slip

Testing Insulation Materials

Associated Research, Inc.—Subjects covered in Manual G-65 on insulating materials testing methods and equipment include high voltage breakdown, automatic rate of rise control for testing, determining arcing resistance of insulations, testing insulating oils, detection of corona leakage in high voltage equipment, and breakdown testing of power cables and bushings.

For more details circle NED-967 K on enclosed inquiry slip

Multiple Operation Machine Tools

Buhr Machine Tool Co.—32-page, colorfully illustrated brochure which reveals the scope of company's operations summarizes the latest advancements in the machine tool field. It covers special machine tool standards and introduces the new Buhr Economatics, plus company service capabilities.

For more details circle NED-968 K on enclosed inquiry slip

Bucket Elevators & Trough-Belt Conveyors

Universal Hoist Co.—One of the most all-inclusive reference manuals on line of bucket elevators and trough-belt conveyors, catalog provides complete information, including prices, specifications, and dimensional data. It is a valuable guide for dealers, distributors, plant operators, and project engineers.

For more details circle NED-969 K on enclosed inquiry slip

Fluorescent Safety Paint

Lawter Chemicals, Inc.—Unusual new folder provides two side-by-side panels which compare regular and Hi-Viz Fluorescent Safety Color to show latter's suporior safety value and brightness. Each panel contains five diagonal stripes of color against a black background. Hi-Viz Fluorescent paint is available in handy kits including aerosol cans and in alkyd and acrylic formulations for brush, roll-on, and spray application.

For more details circle NED-970 K on enclosed inquiry slip

KINNEAR Rolling Doors

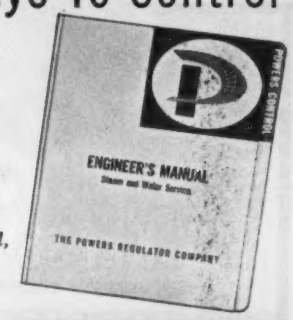
You get better door service at lower cost in Kinnear Steel Rolling Doors. Their efficient *coiling upward action* and protective, all-metal, *interlocking-slat construction* permit *maximum* use of all space around doorways. They open and close with smooth, time-saving ease, year after year, assuring extra protection against wind, weather, intrusion and fire. Motor operation available, with remote control if desired. Built any size, for new or old buildings. Write today.

The KINNEAR Mfg. Co.
3017 Fields Ave.
Columbus 16, Ohio

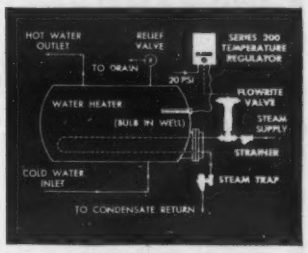
Saving Ways in Doorways KINNEAR ROLLING DOORS

For more details circle NED-971 K on enclosed inquiry slip

Practical Ways To Control Hot Water Storage Heaters



Powers *Engineer's Manual, Steam-Water Service* containing diagrams such as the one shown here on storage heater control is available to you without obligation. Included are diagrams and details on domestic hot water . . . instantaneous heat exchangers . . . heat exchangers for cooling . . . fuel oil heaters . . . pressure reducing . . . jacket water cooling . . . two-temperature hot water systems.



Send for your Engineer's Manual now! Also ask for recommendations on any special requirements.

THE POWERS REGULATOR CO.
Dept. 1060 Skokie 44, Illinois
In Canada: The Powers Regulator Co. of Canada Ltd. Downsview, Ontario

POWERS CONTROL

For more details circle NED-972 K on enclosed inquiry slip

Print it as you make it!

New Automatic Continuous Printing Attachment

Ideal for any material processed in web, sheet, or strip form

Saves cost of separate printing operation. Foolproof and fully automatic—requires no attention during operation, no skill to service. Models to print repeat legends 1" to 36" wide and up to 30" long . . . or continuous designs . . . as part of regular production operation. Suitable for paper, boxboard, plastics, textiles, linoleum, rubber, sheathing, wallboard, gasket material, laminates, metal, etc.

Write today for Bulletin "RIN-15"

First and foremost in automatic production-line CODING, MARKING and IMPRINTING machines — Gottscho®

GOTTSCHO DEPT. N
HILLSIDE 5, N.J.

In Canada: Richardson Agencies, Ltd. • Toronto & Montreal

For more details circle NED-973 K on enclosed inquiry slip

PRECISION CAMS and CAMSHAFTS

All Types . . . Experimental and Production

Special Drum Type Cam

TWO AND THREE DIMENSIONAL CAMS for Ballistic, Computer and Instrument Use—Milled or ground to ± .0001" tolerance

Face Type Cam

FACE AND CYLINDRICAL CAMS milled or ground to ± .0002" tolerance

CAMSHAFTS Aircraft, Automotive, Diesel Marine, Fuel Injection

Camshaft for Internal Combustion Engine

EONIC Inc. Engineers of Precision

Write for catalog and additional information

459 E. Hollywood • Detroit 3, Michigan

For more details circle NED-974 K on enclosed inquiry slip

▲ For more details circle NED-978 K on enclosed inquiry slip ▲

CAN PAY FOR THEMSELVES

IN 6 MONTHS ...OR LESS!

Valuable time spent removing scrap can reduce a machine's *earning power* by as much as 20%. This means additional production time is required to compensate for costly losses from machines idled for scrap removal. Labor and machining costs go up . . . profits go down. The May-Fran CHIP-TOTE conveyor changes losses to profits by providing continuous removal of chips, turnings and borings from all types of machine tools. CHIP-TOTE hinged steel belt conveyors are custom-engineered from stocked component parts in practically any width or length to meet individual operating requirements.

WRITE TODAY FOR MAY-FRAN BULLETIN MF-640

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Road, Cleveland 12, Ohio

▲ For more details circle NED-979 K on enclosed inquiry slip ▲

New Literature & Catalogs

Switches

Controls Co. of America, Control Switch Div.—Sub-subminiature, subminiature, single-pole, double-pole, and triple-pole precision switches are described and their specifications given in 12-page illustrated Catalog 110. Included are usage suggestions, typical actuation methods, and range of variations available in each series.

▲ For more details circle NED-980 K on enclosed inquiry slip ▲

Single-Stage Compressors

Elliott Co., Compressor Dept.—Six-step plan for selection of the correct Type P single stage compressor is outlined in 18-page illustrated Bulletin P-13. Technical data cover the variety of casings, impellers, bearings, seals, and lubrication systems for compressors with capacities from 700 to 100,000 cfm.

▲ For more details circle NED-981 K on enclosed inquiry slip ▲

Hinges

Braun Mfg. Co.—56-page illustrated Catalog 153 is devoted to information on a wide variety of hinges, including aircraft, box, cabinet, display case, piano, butt, spring, conveyor plate, and other types, plus various types of related hardware.

▲ For more details circle NED-982 K on enclosed inquiry slip ▲

Air Conditioning Equipment

Airtherm Mfg. Co.—Centralaire air conditioning, heating, and ventilating central station units are sectional type air handlers for floor, wall, or suspended installation. Capacities range from 400 to 30,000 cfm. Described in illustrated 12-page Bulletin 404, they feature two fan and three coil sizes for each model.

▲ For more details circle NED-983 K on enclosed inquiry slip ▲

Steam Traps & Temperature Regulators

Sarco Co., Inc.—1960 edition of 12-page condensed catalog contains technical details, dimensions, and capacity data on line of steam traps, temperature regulators, pipeline strainers, and heating specialties. Trap condensate discharge capacities range from ⅜ to 6275 lb/hr at pressures from 10 to 600 psi. Regulators are rated to 175 psi.

▲ For more details circle NED-984 K on enclosed inquiry slip ▲

A Belt Drive With Muscle

Maurey Mfg. Corp., Service Div.—Primarily an engineering manual for proper drive selection and installation, 24-page Catalog SW-1 explains how the Super Wedge belt drive reduces drive size as much as 50 per cent with no loss in horsepower capacity. It handles big power loads with smaller sheaves, narrower and fewer belts, less weight, and less space than heretofore possible.

▲ For more details circle NED-985 K on enclosed inquiry slip ▲

Processing & Heat Transfer Equipment

Patterson-Kelley Co.—Laboratory and production blenders, vacuum tumble dryers, packaged pilot plants, process heat exchangers, a new Solids-Processor, and a general purpose solids-flow valve are described and illustrated in 20-page Bulletin 16-P. Specifications of these and other pieces of equipment are included, along with details of company's pre-test laboratory.

▲ For more details circle NED-986 K on enclosed inquiry slip ▲

Glass High Vacuum Systems

Delmar Scientific Laboratories—Complete description of the parts and many accessory items going into glass high vacuum systems is found in the 32 pages of illustrated Catalog 60-D. Information on installation and application of these systems is also included.

▲ For more details circle NED-987 K on enclosed inquiry slip ▲

Motors for Submerged Pumping

U. S. Electrical Motors Inc.—Unimerse motor is designed for submerged operation in low head pumping such as drainage of sumps and tanks. Offered in a range of sizes from ¾ to 40 hp, motor is described and illustrated in 6-page Bulletin F-1976. Design features are shown in cut-away views, and dimensions and ratings are given.

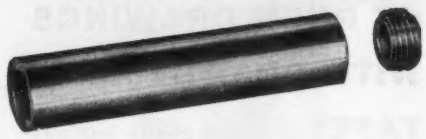
▲ For more details circle NED-988 K on enclosed inquiry slip ▲

Special Cutting Tools

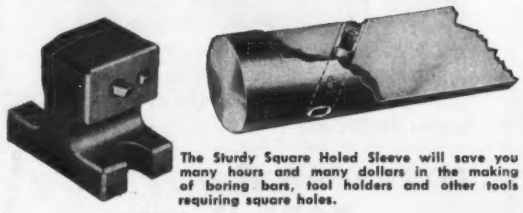
F & D Tool Co.—Special cutting tools listed in 45-page Catalog 1 are carried in stock for immediate delivery. They include heavy and light-duty plain, helical, staggered tooth, half side, and interlocking side milling cutters; and hollow ground, side chip, and staggered tooth metal slitting saws.

▲ For more details circle NED-989 K on enclosed inquiry slip ▲

How SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!



One of the most difficult problems in toolmaking can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The Sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the Sleeve. The Sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.



The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

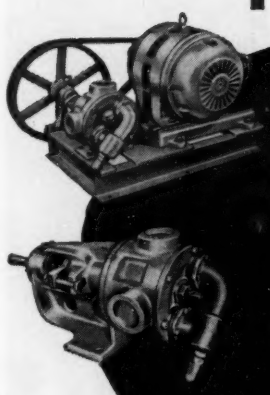
SLEEVES MADE IN FOLLOWING SIZES: 3/16, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾, 1"

Write for Literature

STURDY BROACHING SERVICE, INC.
23514 TELEGRAPH RD., SOUTHFIELD, MICH.

▲ For more details circle NED-990 K on enclosed inquiry slip ▲

DEMING ROTARY PUMPS



Simplicity

Only two moving parts—rotor and idler, are required. They are compact, positive in action and low in initial and maintenance costs.

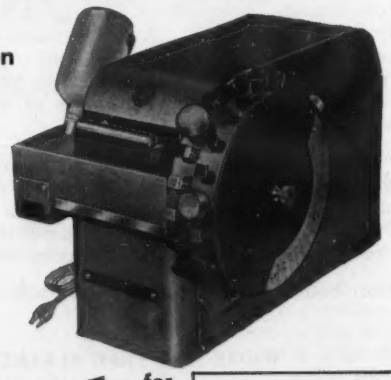
Send today for literature on Deming Rotary Pumps

The DEMING Co.
1006 BROADWAY • SALEM, OHIO

▲ For more details circle NED-991 K on enclosed inquiry slip ▲

FREE TRIAL in your plant

THE IDEAL 200-E ELECTRIC CLIP-A-TAPE



- Push a button get the exact tape length desired!
- Save 20% to 40% in time and tape!

IDEAL for free trial

SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

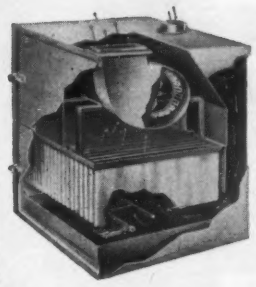
STENCIL MACHINE CO.
134 IDEAL BLOCK, BELLEVILLE, ILLINOIS

▲ For more details circle NED-992 K on enclosed inquiry slip ▲

TORIT DUST COLLECTORS

keep plants clean lessen employee grievances save valuable dusts

Torit Dust Collectors keep plants clean . . . an important factor in protecting employee health and morale—and in lowering absenteeism and employee grievances. Economical, too, these units are portable. They cost a fraction of central built-ins and are not limited to certain areas. They save heat by recirculating clean, filtered air. And, as in tungsten carbide manufacturing or diamond grinding operations, they pay for themselves in days with the valuable dusts they recover.



Torit Cabinet Cloth-Filter Model. High efficiency collection of all types of dust. Particles are trapped on fine-woven cloth filters—99%+ efficiency (by weight). Clean filtered air is drawn past the motor and blower to keep it cool.

Self contained, portable steel cabinets. Removable doors allow ready access to filters, motors, and blowers. Filters are chemically treated for spark resistance and sealed against leakage. These compact units give maximum filter area in smallest possible space. Capacities range up to 2100 cubic feet per minute. Larger units are built on special order. Prices start at $230.

**For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 229*

TORIT MANUFACTURING CO.
1133 Rankin Street • St. Paul 16, Minnesota

▲ For more details circle NED-993 K on enclosed inquiry slip ▲

WHY OFFSET PAPER MASTERS BY XEROGRAPHY?

What's xerography?

A dry, clean, fast, electrostatic copying process that economically prepares offset paper masters for duplicating. You can enlarge, reduce, or copy size to size. Original may be anything written, printed, typed, or drawn. Equipment used is called XeroX® copying equipment, made by Haloid Xerox Inc.

Is XeroX copying equipment easy to operate?

Yes. Three simple steps: exposure, *dry* processing, and dry transfer. Within a few minutes anyone can learn the operation. No original is too hard to handle. There are no critical exposures or temperatures; therefore, waste of materials from wrong exposures is negligible—almost impossible.

How about quality?

Superb. Often it's hard to tell copies from the original. That's why many office-service and engineering-reproduction departments use XeroX copying equipment exclusively for the preparation daily of hundreds of offset paper masters.

Can a copy ever be better than the original?

Yes. Copies of dog-eared and cracked engineering drawings, carbons of bills of lading often look far better than the originals when the masters are prepared by xerography.

What about costs?

Costs are surprisingly low. There are many reasons: xerographic materials cost only a few pennies per master. No special offset paper masters are required and none are wasted. Operator's time is lower because there are no critical adjustments for exposures. The more you need offset paper masters, the more you'll save by xerography over any other method.

Equipment available on low monthly rental purchase, or metered cost-per-copy plan especially designed for low volume users.

No wet chemicals?

None whatever. No peel-apart either. And, of course, there's no changing of chemicals—no "KP" for an office girl at today's higher salaries.

How about length of runs?

You get much longer runs from masters prepared by xerography. Because of their durability, xerographic images do not break down from wet chemicals, thus last longer, and produce much lengthier runs—5,000 and 10,000 copies are not uncommon.

Do masters have to be "hardened" after preparation by xerography?

No. They are ready immediately for the duplicator and, unlike photographically prepared masters, they don't require remoistening to prevent fill-in if the machine stops during the run.

Any need of a darkroom?

None. XeroX copying equipment is operated in full roomlight.

Will XeroX copying equipment make other types of duplicating masters?

Yes, xerography is the world's most versatile copying process. XeroX copying equipment also prepares translucencies for diazotype duplicators, spirit masters for spirit duplicators, and metallic masters for offset duplicators.

Who uses xerography?

Most of the best known companies in America and Canada—and nearly all government agencies where duplicating is required.

Where can I find out more about xerography and offset duplicating?

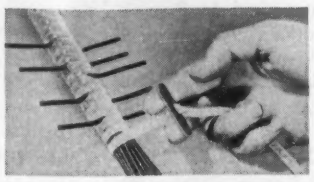
Write today for our XeroX copying equipment brochure. It shows you how to speed paperwork duplicating and save thousands of dollars yearly by xerography. Haloid Xerox Inc., 60-213X Haloid St., Rochester 3, N. Y. Branch offices in principal U. S. and Canadian cities. Overseas: Rank-Xerox Ltd., London.

HALOID XEROX®

▲ For more details circle NED-994 K on enclosed inquiry slip ▲

New Processes & Materials

SPIRAL CABLE WRAPPING for 1/16 to 2-in. OD wire bundles



Two additional sizes of spiral cable wrapping now bring the Panduit line to three sizes for wire bundles ranging from 1/16 to ½, 3/16 to 2, and ¾ to 4 in. diameter. Wrapping is available in Type N clear nylon, Type F clear polyethylene, and Type R white flame-resistant polyethylene. It is used in electronic equipment and control panel installations where door hinge cables, draw-out loops, and isolated runs are necessary. Wrapping is easily removed for revisions and trouble shooting. Wires can enter or leave the cable at any point. A small plastic cable forming tool is supplied with the wrapping. • **Panduit Corp.**, Dept. ND-5, 14461 Waverly Ave., Midlothian, Ill.

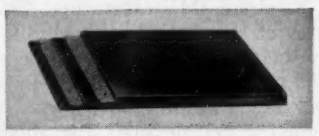
▲ For more details circle NED-995 K on enclosed inquiry slip ▲

SNOW REPELLENT COATING prevents sticking on plows, shovels

An invisible, slippery coating of Slikote liquid spray on metal surfaces prevents the sticking or accumulation of snow. It also resists rust and prolongs the life of shovels and other tools. Spray is easily applied on difficult-to-reach snow plow areas. Material is supplied in 16-oz aerosol cans which sell for $1.98. • **Speco, Inc.**, 7308 Associate Ave., Cleveland 9, Ohio.

▲ For more details circle NED-996 K on enclosed inquiry slip ▲

CONVEYOR BELTING withstands major causes of failure



Hazard - proof carcass of BostRon conveyor belting effectively resists moisture, impact, fatigue, abrasion, chemicals, acids, and other causes of premature belt failure. It will not rot or mildew and is flexible enough to permit troughing to 45 degrees instead of the usual 20 degrees. Carcass, built for equalized ply stress, is protected with a Dulon cover which resists cuts, tears, and aging. High ratio of strength to gage and weight allows use of fewer plies, and pulley diameters can be reduced up to one-third. Special types can be made for conveying many corrosive materials. • **American Biltrite Rubber Co.**, Boston Woven Hose & Rubber Div., Box 1071, Boston 3, Mass.

▲ For more details circle NED-997 K on enclosed inquiry slip ▲

BARRETT SYSTEMS

Engineered to your job

WRITE FOR DESCRIPTIVE LITERATURE

Whatever your materials handling requirements may be, Barrett can do the job efficiently, economically.

BARRETT
Materials handling engineers for half a century

BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Illinois. Representatives in All Principal Cities.

▲ For more details circle NED-998 K on enclosed inquiry slip ▲

TYGON®

means longer lasting protection against acid or alkali attack

If acid or alkali fumes make maintenance painting a never-ending headache, it's time to switch to Tygon. For more than twenty years, these famous specialty coatings have been protecting chemical plants everywhere. Resist acids, alkalies, alcohol, oils, greases. Apply by spray or brush. Air dries quickly.

Write for this Manual

Bulletin 760 tells where and how to use Tygon.

164-G

Plastics & Synthetics Division **U. S. STONEWARE**
AKRON 9, OHIO

▲ For more details circle NED-999 K on enclosed inquiry slip ▲

Item: 22 x 8⅜" blank of 16 gauge steel . . . 4 operations . . . 3 inch depth of draw.

Item: 1" strip of 16 gauge steel drawn to 1/1000 inch tolerance on 14-station progressive die.

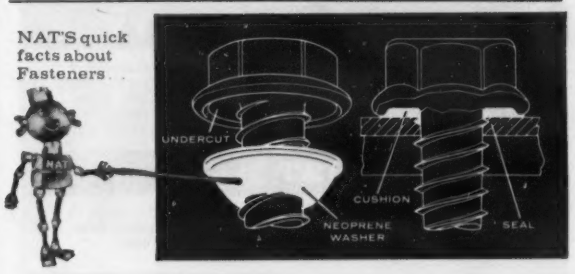
Item: 8½" blank of 18 gauge steel . . . 5 operations . . . 2 inch depth of draw.

Quadriga quality stampings are custom-manufactured; *any metal, medium to high quantity.* Depth of draw to 3½ inches . . . press capacities to 150 tons. Send b/p or specs for estimate...request catalog on your company letterhead.

THE Quadriga MFG. CO.
221 WEST GRAND AVE. • CHICAGO 10, ILL.

▲ For more details circle NED-1000 K on enclosed inquiry slip ▲

NAT'S quick facts about Fasteners



With TUFF-TITE Fasteners ... it's the cushion control that counts!

Preassembled neoprene washer won't ooze off when compressed. It forms a firm, even cushion under the head . . . seals off hole . . . prevents leakage. It also dampens vibration and protects fine finishes against marring and crazing.

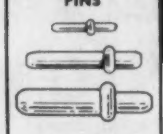
Available as machine, self-tapping, or wood screws. Also as stove bolts, roofing bolts or special fasteners. Write for literature or for help on any possible application.

The National Screw & Mfg. Company
Cleveland 4, Ohio
Los Angeles 22, Calif.

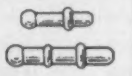
▲ For more details circle NED-1001 K on enclosed inquiry slip ▲

50% SAVINGS with BEAD CHAIN® Multi-Swage Parts

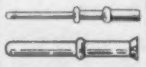
CONTACT PINS



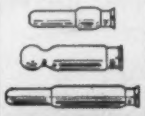
TERMINALS



JACKS



FRICTION CONTACTS



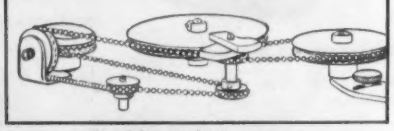
also PRINTED CIRCUIT MINIATURE PARTS

Contact pins, terminals, jacks or any small tubular parts. Maximum ¼" diameter x 1¼" length.

Send sketch for quotations.

BEAD CHAIN DRIVES

Low-speed positive drives or motion transfer ... at far less cost!



Send for Multi-Swage or Bead Chain Drive Catalogs!

THE BEAD CHAIN MFG. CO.

16 Mountain Grove St., Bridgeport 5, Conn.

For more details circle NED-1002 K on enclosed inquiry slip

3 WAYS BETTER

ALBION'S NEW SERIES 16 CASTERS

Another completely new . . . completely practical Albion industrial caster series developed to serve a broader variety of applications. Conservatively rated as **medium duty** casters, yet constructed for longer, better . . . heavy duty, maintenance-free service. They're three ways better, and here's why:

1. MORE CAPACITY

The new Series 16 Casters offer Albion's finest, most dependable construction advantages such as "cold-formed" steel yoke base and top plate with heat-treated raceways for smoother, lasting maneuverability under greater capacity loadings.

2. MORE WEARABILITY

Albion's Series 16 Casters are available in 9 different high capacity or floor protective wheel types in diameters of 3¼" to 8" with a capacity range of 140 to 900 lbs. per wheel. Sound engineering, quality materials and craftsmanship plus Albion's many outstanding construction features are combined to afford a caster that will last and last and last.

3. LESS COST

Although built to Albion's exacting quality standards, the Series 16 cost you far less than most ordinary casters of the same size or capacity ratings. And . . . they are available—all models—right now!

RIGID CASTERS
Albion's Series 16 Casters are available as matching rigid models in 9 wheel types—3¼" to 8" wheel diameters.

Remember . . . if you want longer, better service plus caster versatility at a savings you can count—be sure to get all the facts and figures from Albion.

Write—wire or phone today for your copy of the new illustrated specification sheets on Albion Series 16 Casters

ALBION INDUSTRIES, INC.
Albion, Michigan

For more details circle NED-1003 K on enclosed inquiry slip

New Literature & Catalogs

Coaxial Connectors

Kings Electronics Co.—Complete technical data are furnished in 8-page catalog on the Foamflex series of coaxial connectors designed for use with Phelps Dodge Foamflex cable. Applications involve specific use of Spirafil and Styroflex cables.

For more details circle NED-1004 K on enclosed inquiry slip

Combination Light & Air Diffusers

Barber-Colman Co.—After briefly tracing the evolution of lighting and air distribution, 24-page Catalog F 9768 completely describes combination fluorescent light and air diffusion fixtures developed jointly by Barber-Colman and Day-Brite Lighting, Inc. Units are offered in 12 x 48 and 24 x 48-in., two and four-lamp sizes and successfully blend two prime comfort factors—air and light.

For more details circle NED-1005 K on enclosed inquiry slip

Washable Tracing Film

Keuffel & Esser Co.—"Tracings You Can Wash" is title of 4-page bulletin describing Herculene drafting film which can be washed with soap and water to restore the printability of original tracings. Film has a waterproof base of Mylar polyester film. Duralar pencil provided in folder for reader's own wash-test draws lines on sample of film that are unaffected by the wash treatment.

For more details circle NED-1006 K on enclosed inquiry slip

Welding Data Book

Eutectic Welding Alloys Corp.—Pocket-size 148-page "Maintenance Welding Data Book" provides a guide, indexed by application, to nearly 200 different welding rods, electrodes, and chemical aids. It also explains general welding techniques and joint design hints. Other topics relative to preventing base metal damage are included.

For more details circle NED-1007 K on enclosed inquiry slip

Flexible Shafts & Couplings

Kupfrian Manufacturing Corp.—Many types and sizes of standard flexible shafts and couplings, as well as such related components as end fittings, core sizes, and casings, are listed in 12-page Catalog 6094. Various design techniques depicted will assist engineers in applying flexible shaft assemblies to their projects.

For more details circle NED-1008 K on enclosed inquiry slip

Electric Motor Idea Book

Doerr Electric Corp.—Filled with useful data for designing, selecting, and specifying, 14-page idea Bulletin 150 is of particular value to original equipment manufacturers requiring special motor designs. Construction, dimensional, and price data are given on line of fractional and integral horsepower motors. Special designs are illustrated to suggest practical solutions to out-of-the-ordinary job problems.

For more details circle NED-1009 K on enclosed inquiry slip

Silicone Rubber Sleeving

Space-saving thin wall construction and precision ID dimensions make Varglas Silicone Rubber Sleevings the best answer for miniaturization. Highly flexible with dielectric strength up to 8,000 volts, Varglas resists deterioration, cracking, crazing, and "cut through" in temperature from minus 70° to plus 400° F. Meets government specification MIL-I-18057A.

A complete range of sizes from .010" to 3" ID, in brilliant, non-fading colors for instant coding identification. Comes in coils, spools or 36" lengths for off-the-shelf delivery. Of course, Varflex engineers are always ready to work with you at any time to develop the special sleevings and tubings you need for your applications. No obligation or charge for this cooperation.

• *Write for free folder containing test samples*

Varflex
"Never satisfied until you are"

VARFLEX SALES CO., INC. • 310 N. Jay St., Rome, N. Y.

For more details circle NED-1010 K on enclosed inquiry slip

DAYTON ROGERS

Drawn Shell Trimmers

LOWEST TOOLING COSTS on Small Lot and Production Runs

Dayton Rogers' Model ST-4 S-L-I-D-I-N-G KNIFE DRAWN SHELL TRIMMER handles up to 1100 shells/hr. of any shape within a 10" dia.

5 EXCLUSIVE FEATURES
- ✓ Fully automatic & single stroke cycles
- ✓ Variable speed
- ✓ Quick setup
- ✓ 4-Way safety control
- ✓ Simple tool layout

Mean lower costs, higher output and greater profits

•

Engineering production costs to analyze your drawn shell trimming requirements on receipt of sample or drawings.

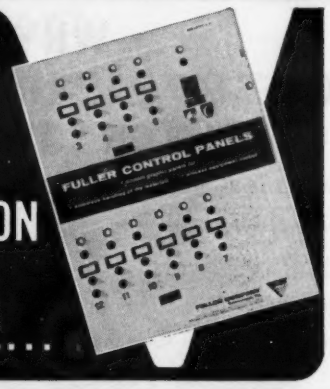
WRITE FOR BULLETIN F-25-C

DAYTON ROGERS *Manufacturing Company*

Minneapolis 7E, Minnesota

For more details circle NED-1011 K on enclosed inquiry slip

FOR FACTS ON PUSH-BUTTON REMOTE CONTROL...



. . . of systems for handling and processing dry solids . . . get this FREE illustrated bulletin

Complete information on Fuller Control Panels which control the flow of bulk materials automatically, simply and economically. A single push button starts the complete operation.

Operational safety is provided by "feedback" systems. Panels indicate process transition from one phase to another.

One man can control several complete operations. Errors in human judgment are minimized.

For information on the several standard panel types available, write for Bulletin G-9. No charge, of course!

FULLER COMPANY
154 Bridge Street
Catasauqua, Pa.

Fuller pioneers in harnessing air

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION

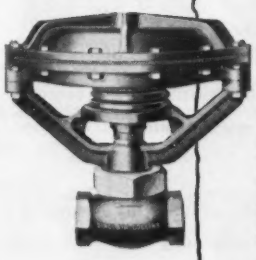
2615 CP-1 **Offices in Principal Cities Throughout the World**

For more details circle NED-1012 K on enclosed inquiry slip

control low and medium pressure raw water (hot or cold), steam, oil, air, gas or vacuum

SINCLAIR-COLLINS DIAPHRAGM OPERATED

VALVES



2-way direct and reverse acting, 3-way • air operated • automated or manual control • stainless steel trim • bronze or ductile iron bodies • pressures from near perfect vacuum to 350 psi • 1/16 to 3 in. NPT.

For more information, write for Bulletin SC-59. Address The Sinclair-Collins Valve Company, Akron 9, Ohio, Dept. NED-1060.

8119-1

The SINCLAIR-COLLINS VALVE Co.

DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)
AKRON 11, OHIO

For more details circle NED-1013 K on enclosed inquiry slip

Marsh Needle Valves in 316 STAINLESS

A great combination: all the superlative construction of the Marsh Needle Valve with the corrosion-resistance of 316 stainless steel!

Gives precision throttling and tight closure on all pressures up to 6000 psi. Handles all temperatures from minus 100° F. to plus 500° F., thanks to "Marpak" packing system utilizing precision moulded Teflon.

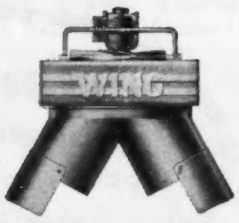
Sizes ⅛" through 1". Identified by blue handle.

Marsh Needle Valves are also available in 416 stainless steel (identified by green handles) and in alloy steel (identified by yellow handles.)

MARSH INSTRUMENT COMPANY
Dept. 26, Skokie, Illinois
Division of Colorado Oil and Gas Corporation
Marsh Instrument & Valve Co. (Canada) Ltd., 8407 103rd St., Edmonton, Alberta, Canada
Houston Branch Plant, 1121 Rothwell St., Sect. 15, Houston, Texas

▲ For more details circle **NED-1014 K** on enclosed inquiry slip ▲

ONLY WING REVOLVING HEATERS



Offer All These Advantages

- **No Hot Blasts and Cold Spots:** The slowly revolving Wing discharges gently spread warm air over the area to be heated. The air flow cannot be blocked by obstructions.
- **Fewer Wing Heaters are Needed:** Wing Revolving Heaters cover larger areas—up to 125' x 125'.
- **Mounting Heights From 8' to 60' and over.**
- Easy Installation, Minimum Maintenance, Economical.
- For Steam, Hot Water, Gas — Capacities up to 1,209,000 Btu/hr.

Write for Bulletin

WING L. J. WING MFG. CO. DIVISION OF AERO SUPPLY MFG. CO. INC.
165 Vreeland Mills Road, Linden, New Jersey
Factories: Linden, N. J. and Montreal, Canada

▲ For more details circle **NED-1015 K** on enclosed inquiry slip ▲

KODAK ANNOUNCES

Kodak

3 important new Kodagraph Films

Superb, high-contrast emulsions on new ESTAR BASE assure you of crisp, sharp, long-lasting, dimensionally stable reproductions of your drawings, maps, other documents. These three new ESTAR BASE films are also highly translucent, have an excellent matte surface on both sides . . . won't turn yellow or become brittle, and are moisture resistant. Available in cut sheets, and in rolls up to 52" wide.

1. **Kodagraph Autopositive Film, ESTAR BASE.** Ideal for general reproduction work—gives you same-size positive intermediates *directly* without negative step.
2. **Kodagraph Contact Film, ESTAR BASE.** Bound to be a darkroom favorite in making same-size reproductions of old or weak line originals from film or low-cost paper negatives.
3. **Kodagraph Projection Film, ESTAR BASE.** Gives you sharp, clean results when enlarging microfilm negatives, or making reductions from film negatives.

Call local Kodagraph dealer for free folder, or write to Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

NEW! Kodagraph
REPRODUCTION FILMS

▲ For more details circle **NED-1016 K** on enclosed inquiry slip ▲

New Processes & Materials

BLACKTOP DRIVEWAY SEALER
1 gal coats 80 to 100 sq ft

Useful service life of blacktop driveways and parking areas is extended for long periods by application of Careysealer, an asphalt coating product. Ready to apply cold from the container and containing no flammable solvents, it prevents hairline cracks and oxidation. Its hard surface will not soften or track during excessive summer heat. Area to be covered is swept, flushed with clear water, and the sealer is spread sparingly with a broom or brush on the damp surface. One gallon coats 80 to 100 sq ft. • **Philip Carey Mfg. Co.,** 320 S. Wayne Ave., Cincinnati 15, Ohio.

▲ For more details circle **NED-1017 K** on enclosed inquiry slip ▲

PLATING PRECLEANER
also removes light rust

Hazardous acid pickling to remove rust prior to electroplating is eliminated by Turco Surj alkaline cleaner which simultaneously precleans and removes light rust. Because of its high conductivity in solution, Surj penetrates deeply into surface pores to remove grease, oil, buffing compound, and fingermarks, as well as rust. It can be used electrolytically, or as a soak tank cleaner with either hard or soft water. • **Turco Products, Inc.,** 24600 S. Main St., Wilmington, Calif.

▲ For more details circle **NED-1018 K** on enclosed inquiry slip ▲

GUMMED LABELS
lie flat without presticking

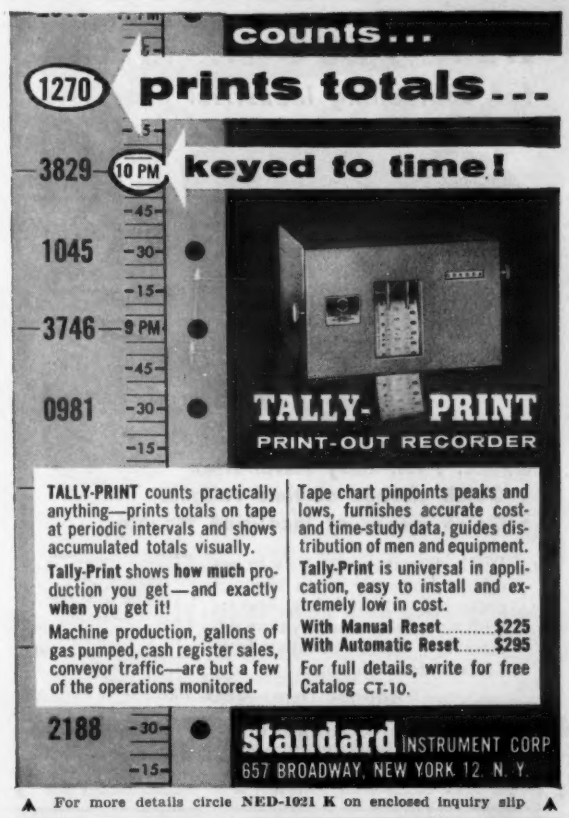
Handled and stored in the same manner as plain paper, Prone paper stock used for these gummed labels has a "relaxed" quality. It lies flat without presticking or curling, even with extremes of temperature and humidity. The paper conforms readily to product surfaces and adheres with a strong, permanent bond. Product identifying and standard address types of labels are available in a variety of finishes, single and multiple colors, plain, or varnished. Labels also feed flat into imprinting machines without curl. • **Kalamazoo Label Co.,** 321 W. Ransom St., Kalamazoo 12, Mich.

▲ For more details circle **NED-1019 K** on enclosed inquiry slip ▲

A product of the Marking Device Industry

Mecco SAFETY MARKING TOOLS **M.E.CUNNINGHAM CO.**
1055 CHATEAU STREET, PITTSBURGH 33, PA.

▲ For more details circle **NED-1020 K** on enclosed inquiry slip ▲



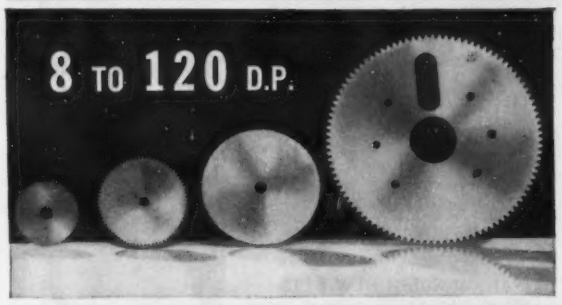
▲ For more details circle **NED-1021 K** on enclosed inquiry slip ▲

MITY-MIDGET

Cut sanding costs as much as 75% (over hand sanding), with National's Mity-Midget . . . the original orbital action sander. Weighs only 4 lbs . . . yet has 25 sq. in. of abrasive area. Powerful . . . vibrationless. Write for complete catalog, today.

Write for complete catalog
NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

▲ For more details circle **NED-1022 K** on enclosed inquiry slip ▲



LONG LIST OF STOCK GEAR DIES OFFERS YOU BIG SAVINGS!

ACCURATE STAMPED GEARS by *WINZELER* are BIG savers of time and money. Single stampings are laminated to wide faces at savings up to 60%! Further economies are made possible by a BIG range of *stock* Dies. Modern new plant, methods, and equipment now greatly increase production speed, efficiency and *economy!* Send blue prints. Tell us about your needs today. No obligation.

SEND FOR...

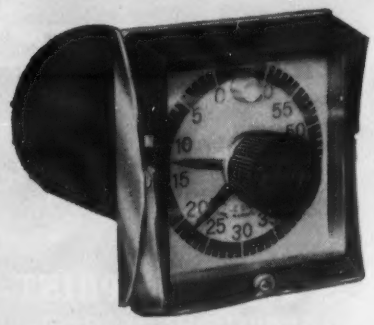
New list of WINZELER-made stock Gear Dies. Ask for it on company letterhead, *please!*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
7355 W. WILSON AVENUE • CHICAGO 31, ILLINOIS

▲ For more details circle **NED-1023 K** on enclosed inquiry slip ▲

NEW PLUG-IN TIMER
for controlling industrial processes



EAGLE'S HP5 CYCL-FLEX

Offers: Fast, easy installation
- **Quick change of time ranges**
- **Quick means of localizing trouble**

With 4 switches — 2 switches operate instantly when timer is energized — 2 switches operate with time delay — delay time adjustable — selection of dials from 10 seconds to 60 hours.

To Remove: Lift handle and pull out

Address Dept. NED-1060

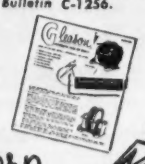
EAGLE SIGNAL COMPANY, Moline, Illinois
A DIVISION OF THE GAMEWELL COMPANY, AN E. W. BLISS COMPANY SUBSIDIARY

▲ For more details circle NED-1027 K on enclosed inquiry slip ▲

REPLACEABLE Spring Motors in Gleason Reels

Spring motors in GLEASON SPRING REELS are *replaceable* as a single unit by removing a few bolts. There's no chance of spring "fly out," no need to handle loose or free springs. A stock of these spring motors is always on hand, for quick replacement without difficulty or danger.
Check into this—and many other features, that make GLEASON REELS the safest, most efficient, most economical for all cable-control applications to "equipment in motion."

Your "Reel" problems can be most effectively solved by GLEASON REELS. Write for a Gleason-engineered suggestion — or free copy of Bulletin C-1256.



Gleason Reel Corp
Dept. A-800 Horicon St.
Mayville, Wis.
SPRING REEL HEADQUARTERS FOR ALL INDUSTRY

▲ For more details circle NED-1028 K on enclosed inquiry slip ▲

DiaTest SMALL BORE GAGES in NEW, wide range OF SIZES!

DIAMETERS: .047" to 1.620"
ACCURACY: .00008"

ANNOUNCING NEW SETS
- **SET No. E-0:** Range .047" to .062"
- **SET No. E-5:** Range 1.130" to 1.620"
- **SET No. E-161:** Nominal Range 1/4" to 3/8" (A "fractional" set, in increments of 1/4")
- FOUR additional sets available, covering range of .057" to 1.130".

(ALL SETS ARE COMPLETE with measuring heads, setting rings, dial indicator, etc.)

Diatest gages measure tapered, incomplete, out-of-round, and all other bore variations.

RIGHT ANGLE ATTACHMENT, EXTENSION RODS, AND DEPTH ADJUSTER ACCESSORIES ARE AVAILABLE.

Write today, or call NEwcastle 1-8888 for full information!

FOSTER SUPPLIES CO.
6122 MILWAUKEE AVE., DEPT. NED
CHICAGO 46, ILLINOIS

▲ For more details circle NED-1029 K on enclosed inquiry slip ▲

New Literature & Catalogs

Variable Speed Drives

Browning Mfg. Co.—Locking ring assembly, 360-degree adjustment, concentric grooves, ease of adjustment, and unbreakable malleable adjusting rings are among features of MVP line of multiple groove variable pitch sheaves outlined in variable speed drive Catalog MVP-101-A. Specifications and engineering data on all components are found in its 24 pages.

▲ For more details circle NED-1030 K on enclosed inquiry slip ▲

Phosphor Bronze

H. K. Porter Co., Riverside-Alloy Metal Div.—Updated 20-page technical handbook on phosphor bronze describes continuous casting and includes data on wire, bar, rod, strip, sheet, circles, and special shapes. Flexograin fine-grain phosphor bronze is also described. Specifications of all forms are given.

▲ For more details circle NED-1031 K on enclosed inquiry slip ▲

Solenoid Selector Chart

Controls Co. of America—Aid in the selection of the correct Double T solenoid for any given application is provided by a slide chart. Basic setting is the desired length of stroke from 0 to 1 3/8 in. Another setting indicates the maximum quiet pull in seated position. Pull in pounds and current draw is shown.

▲ For more details circle NED-1032 K on enclosed inquiry slip ▲

Machine Tools

South Bend Lathe, Inc.—Engine, toolroom, and turret lathes; milling machines; shapers; drill presses; and pedestal grinders are described in 96-page Catalog 1960 which includes prices. Section is devoted to tools, attachments, and accessories for these lines. Included are specifications of all models and almost 500 illustrations.

▲ For more details circle NED-1033 K on enclosed inquiry slip ▲

Industrial Tractors

Massey-Ferguson, Inc.—Action photos, cut-away drawings, operating information, and specifications on new line of industrial tractors and accessories are found in 24-page brochure.

▲ For more details circle NED-1034 K on enclosed inquiry slip ▲

Machine Tool Accessories

Master Mfg. Co.—16-page Catalog 160 illustrates available styles of machining heads and presents their specifications. Content of 28-page Catalog 260 consists of information on feed tables and machine beds.

▲ For more details circle NED-1035 K on enclosed inquiry slip ▲

Synchronous Motors

Superior Electric Co.—Four new types of Slo-Syn synchronous motors are described and specified in 8-page Bulletin SE-L2604. Motors deliver 72-rpm shaft speed; will start, reverse, and stop instantly; and can be used as stepping motors. Covered are 50-oz-in., 250-oz-in., militarized, and explosionproof units.

▲ For more details circle NED-1036 K on enclosed inquiry slip ▲

STOPS LEAKS

With these three you're ready for almost every job that involves leaks, caulking, pipe connections, etc. Make sure they're always at hand.

OYLTITE-Stik — Stops oil leaks *right now* — even while oil is flowing — in pipes, tanks, drums, transformers, etc. Just rub across leaking holes or seams. Ideal thread compound for hydraulic lines, up to 10,000 psi. Handles temperatures to 250° F.

PIPETITE-Stik — Pipe joint compound that assures a perfect seal with gases, Freon, ammonia, steam, etc. *Non-toxic, contains no lead.* Good for pressures to 10,000 psi., temperatures to 750° F.

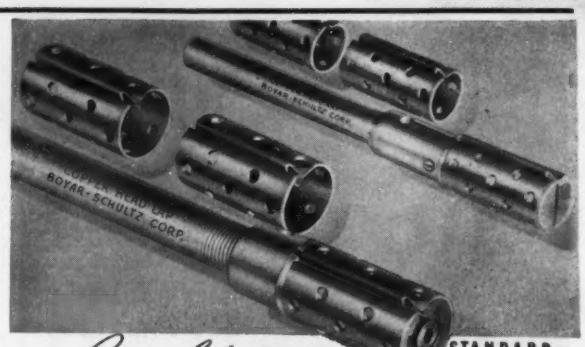
KRAK-Stik — Stops leaks cold — without heating stick or work — in soil pipes, castings, concrete walls, etc. No need to drain lines in most cases.

No mess, no waste. Swift, efficient and economical.

See your supplier for these LA-CO Products. Or write on letterhead for full information.

LAKE CHEMICAL CO.
LA-CO BRAND
3053 W. Carroll Ave., Chicago 12, Ill.

▲ For more details circle NED-1037 K on enclosed inquiry slip ▲



Boyar-Schultz STANDARD and EXPANSION

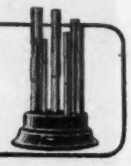
COPPER HEAD LAPS

It is less costly and quicker to use Boyar-Schultz Copper Head Laps, than to make your own. Copper Head Laps are accurate and rapid to use. Nothing to wear out but the copper sleeve which is replaceable and adjustable to the correct size.

Adjustment permits maintaining lapping size till worn out and replaced with new ones. Available from stock in standard sizes, 1/8" to 2 1/2" diameters.

WRITE FOR CIRCULAR

SPECIAL TOOL MAKERS BENCH LAP SET
Consists of seven most commonly used sizes—1/8"-3/16"-1/4"-5/16"-3/8" 7/16"-1/2", with enameled die cast base.



BOYAR-SCHULTZ CORPORATION
Dept. FB, 2001 South Avenue
Broadview, Illinois

▲ For more details circle NED-1038 K on enclosed inquiry slip ▲

AIR-LOC
MACHINE MOUNTING PADS
. . . positive vibration control at lowest cost

- Easily installed without cement or bolts
- For levelling, insert shim between pads
- Vinyl impregnated cork and sisal resists oils, alkalies and acids
- Machines held firmly in place — no "walking"
- Air-Loc is re-usable when machine is moved or replaced

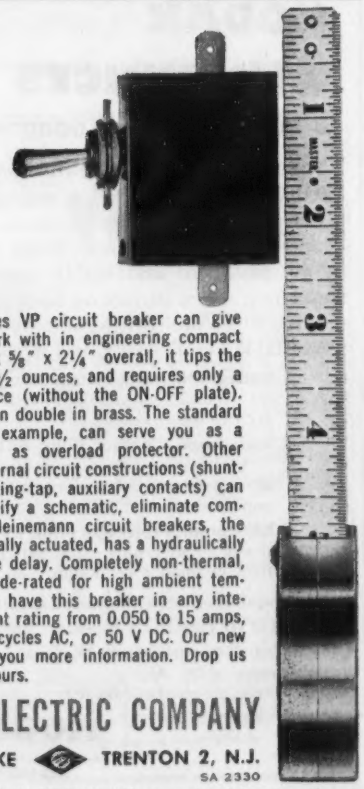
Write for full information and sample.

Air-Loc DIVISION

Clark, Cutler, McDermott Company
103 WEST CENTRAL ST. • FRANKLIN, MASS.

▲ For more details circle NED-1039 K on enclosed inquiry slip ▲

Try this breaker for size



Heinemann's new Series VP circuit breaker can give you elbow room to work with in engineering compact equipment. Just 2 1/2" x 5/8" x 2 1/4" overall, it tips the scales at a piddling 1 1/2 ounces, and requires only a half-inch of panel space (without the ON-OFF plate). Yet, small as it is, it can double in brass. The standard series-trip model, for example, can serve you as a toggle switch as well as overload protector. Other models with special internal circuit constructions (shunt-trip, relay-trip, calibrating-tap, auxiliary contacts) can do even more to simplify a schematic, eliminate components ☐ Like all Heinemann circuit breakers, the VP breaker is magnetically actuated, has a hydraulically controlled, inverse time delay. Completely non-thermal, it doesn't have to be de-rated for high ambient temperatures. ☐ You can have this breaker in any integral or fractional current rating from 0.050 to 15 amps, for 110 V, 60 or 400 cycles AC, or 50 V DC. Our new Bulletin VP will give you more information. Drop us a line, and a copy's yours.

HEINEMANN ELECTRIC COMPANY
106 BRUNSWICK PIKE TRENTON 2, N.J.
SA 2330

▲ For more details circle NED-1040 K on enclosed inquiry slip ▲

JUST WON'T SLIP. . .

Granet's new wet-grip **PYTHON** Neoprene just won't slip . . . even under the most trying conditions . . . yet costs no more than smooth neoprene coated or leather work gloves.

The wet-grip feature of **PYTHON** neoprene coated work gloves is a big plus for the man working with oil . . . grease . . . chemicals or other slippery materials.*

Flannel lining with wing thumb for added comfort and wear. Variety of styles . . . knit wrist to 18" gauntlet.

**Prove it to yourself . . . write for a free pair on your letterhead . . . and put them to the test!*

THE GRANET CORPORATION
25 LORING DRIVE, FRAMINGHAM, MASS.

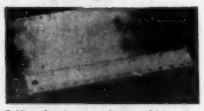
▲ For more details circle **NED-1041 K** on enclosed inquiry slip ▲

TOTALLY NEW AIR TOOL
Hogs, Blends, Finishes Metal Faster!

ARO Portable Belt Grinder

Aro has combined the backstand idler principle of abrasive grinding with *portability* and *power* to remove metal faster. Live action of coated abrasive belt running at high speed over slotted, resilient rubber contact wheel sets abrasive grains "on edge" to give more bite. The metal is actually *sheared* off! Action is smooth—no chattering, bumping or bouncing. And you can rough grind and finish in one operation, because the abrasive belt method doesn't leave gouges or swirls in the work. Free belt stropping of corners and radii is easy, too. Beat high grinding costs with new Aro Belt Grinders. Job test one. Ask your Aro Distributor.

1 Take a rough 6" weld like this. Put a powerful Aro Belt Grinder on the job, and take the grind out of grinding!



2 Here's the result just 1¾ minutes later, using a 24-grit belt . . . typical of the performance you can expect from the new Aro Belt Grinder.

ARO® AIR TOOLS
AIR HOISTS · AUTOMATION TOOLS · ULTRASONIC CONTROLS
THE ARO EQUIPMENT CORPORATION, Bryan, Ohio
Aro of California, 3141 S. Grand Avenue, Los Angeles 7, California; Aro Equipment of Canada Ltd., Rexdale (Toronto), Ontario; Offices in all Principal Cities

▲ For more details circle **NED-1042 K** on enclosed inquiry slip ▲

New Processes & Materials

TWO-SIDED ADHESIVE TAPE
pressure sensitive type in rolls

Bonding instantly without moistening, Kleen-Stik two-sided adhesive in tape form is carried on a paper strip, packaged in a 36-yd roll dispenser. The adhesive strip is applied to any surface and the carrier paper may or may not be removed. When removed, the second adhesive side is exposed, ready for use. The adhesive is not moist, does not warp papers, and will not "gum up" office equipment. Fingers never need touch the tacky surfaces. Hand dispenser is available in ½, ¾, and 1-in. widths, with the adhesive slightly narrower than the carrier paper to provide a lift edge. ● **Kleen-Stik Products, Inc.**, 7300 W. Wilson Ave., Chicago 31, Ill.

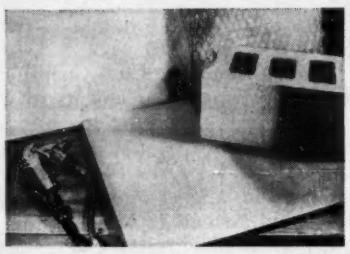
▲ For more details circle **NED-1044 K** on enclosed inquiry slip ▲

DIECASTINGS CLEANER
aids subsequent plating

Zinc diecastings are cleaned and surface conditioned prior to plating with Clepo 50-ZB electrocleaner. It does not darken or discolor the surfaces of polished diecastings and thus improves the over-all appearance of the final plate. Cleaner is relatively low in price. ● **Frederick Gumm Chemical Co.**, 538 Forest St., Kearny, N. J.

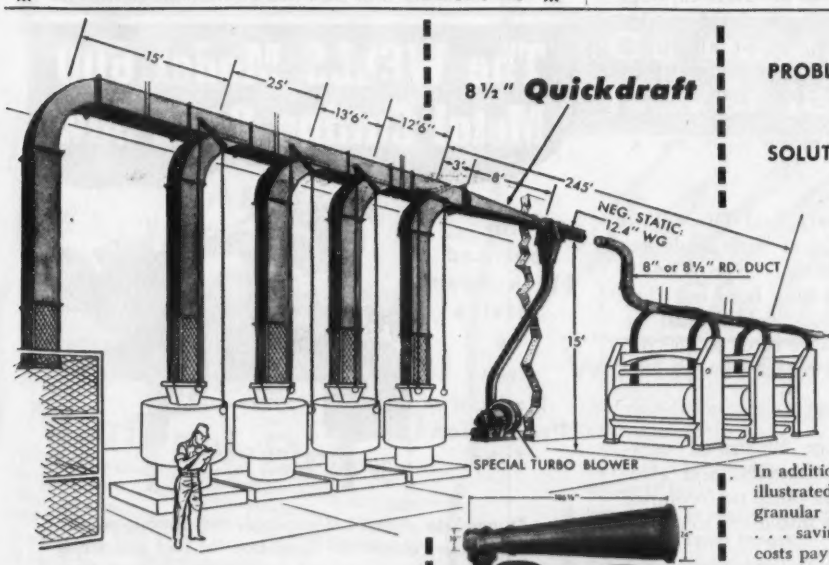
▲ For more details circle **NED-1045 K** on enclosed inquiry slip ▲

PROTECTIVE PLASTIC
coating sprayed on various surfaces

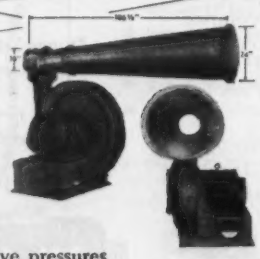


Epoxy - vinyl membrane film is sprayed on surfaces in the Ren-Coat two - part system to form a durable, elastic coat. It offers protection against weather, corrosion, moisture and water, hard impact, temperature change, chemicals, and aging. Three basic types of coatings are applied over an all-purpose primer in thicknesses of 6 to 10 mils, although up to 40 mils is possible. Curing is complete in 7 or 8 days. Structural movements leave coating adhesion undisturbed. Unaffected by temperatures from −65 to 350° F, the coating is washable with mild detergents and warm water. Numerous color combinations and natural wood finishes are applicable to roofs, building exteriors, walls, floors, ceilings, smokestacks, underground tanks, exposed machinery, and tank car and truck exteriors and linings. ● **Ren Plastics, Inc.**, Dept. RP-66, 5422 S. Cedar Rd., Lansing 9, Mich.

▲ For more details circle **NED-1046 K** on enclosed inquiry slip ▲



Schematic of an actual installation in which 3" and 4" paper trim of 140 lb. basis weight (Ream 25 x 38) is continuously removed and conveyed to one of four hydro-pulpers or to screen container by an 8½" *Quickdraft* unit.



Patents 2,722,372 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

Quickdraft units with extremely high negative pressures are available in 4½" to 30" diameters in plastic-coated steel, No. 316 Stainless Steel or rigid plastics for corrosion resistance.

PROBLEM: High speed removal and disposal of paper trim

SOLUTION: *Quickdraft* VACUUM SYSTEM

VELOCITY: 7,016 FPM.
NEG. STATIC, WITH DUCT CLOSED: 19.2" WG

Quickdraft high-pressure vacuum systems have proven extremely successful, efficient and economical in solving materials handling problems. In addition to paper or plastic film trim, the system illustrated could convey any bulk, powdered or granular material that can be moved by air. And . . . savings in labor, down-time and replacement costs pay for *Quickdraft* units in 12 to 24 months!

Quickdraft units also are used for industrial exhaust systems and to increase combustion efficiency in all types of heating plants.

For recommendations on materials handling, please furnish sample of material, distance material to be moved and sketch of proposed installation.

***Quickdraft* CORPORATION** P. O. BOX 87-L CANTON 1, OHIO 9012-QD

▲ For more details circle **NED-1043 K** on enclosed inquiry slip ▲

The Standard of Excellence!

■ For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

▲ For more details circle **NED-1047 K** on enclosed inquiry slip ▲

UNIVERSAL
SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

★ 180 "O" Rings in Each Kit — Sizes 1 to 25.
★ Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
★ Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
★ Buy Replacement Back-up Washers in these "O" Ring Sizes.

TEFLON	$115.95
BUTYL RUBBER	$ 47.95
STANDARD COMMERCIAL (Buna N)	$ 24.50
STANDARD SILICONE RUBBER	$ 66.90
VIM LEATHER BACK-UP WASHERS	$ 28.75
SELECT-O-RING KITS IN VITON	$124.50
AN 6227 SERIES	$ 59.50

RETAINING RING
ECON-O-KIT

400 Truarc Cadmium Plated Rings —84 Sizes—70% of Ring Sizes Used in Industry

Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from ¼ to 2½ inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio

▲ For more details circle **NED-1048 K** on enclosed inquiry slip ▲

out on a limb over saw methods?

Why risk an embarassing letdown with old-fashioned cutting method? Save time, temper and patience. Now . . . zip through 3/16" aluminum, fiberglass, reinforced plastics, plastic laminates, even 16 gauge steel, with minimum effort . . . maximum speed . . . with the KETT Panel Master Saw. Its performance is outstanding on metal laminates such as Mirawal, Metalwal, Met-L-Wood and Amorply. 2½" diameter saw blades give full ⅝" depth cut. Leaves accurate, smooth milled edge that requires no sanding or finishing. Amazingly easy to use . . . extra rugged for long, hard service.

Powered by heavy duty, industrial type 110 volt AC/DC portable 5/16" capacity electric drill motor. Ball bearing equipped drive for smoother operation.
Write for Catalog E-58

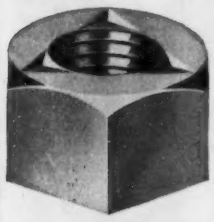
KS-3AM Panel Master Saw

THE KETT TOOL COMPANY
5051 Madison Rd.
Cincinnati 27, Ohio

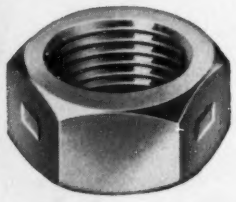
▲ For more details circle NED-1049 K on enclosed inquiry slip ▲

Use These 2 GRIPCO® LOCK NUTS to

• Resist vibration • Save production time
• Speed application • Lower in-place cost



GRIPCO TOPLOCK NUTS
Simple, one piece design, no inserts, no separate locking devices. They increase product durability at low initial cost, increase customer satisfaction.



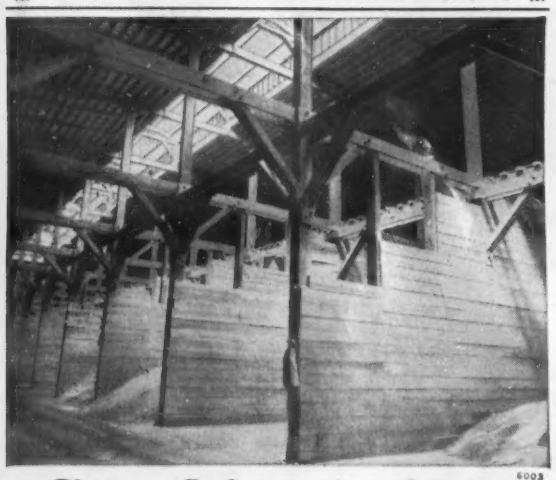
GRIPCO CENTERLOCK NUTS
A new, low cost lock nut, can be applied from either end, double chamfered with locking feature in the center. Can be automatically fed, will lock wherever turned on bolt.

For better service, reliability and large stocks to ensure out-of-stock delivery on all catalogued items, use Gripco Fasteners on your products. Send for samples and NEW catalog today, or consult the yellow pages in your phone book under "GRIPCO" for the representative nearest you.

126

GRIP NUT COMPANY
Subsidiary of Heli-Coil Corporation, Danbury, Conn.
106 Maple Ave. • South Whitley, Ind.
Phone: South Whitley 723-5111

▲ For more details circle NED-1050 K on enclosed inquiry slip ▲



6003

Sunshine is free
...why pay for light?

Cut light bills with skylights of Structoglas fiberglass reinforced panels. Translucent Structoglas lets in free sunshine—filters out glare. Maintenance costs practically nothing. Structoglas is shatterproof, needs no painting, is unconditionally guaranteed for three years. Corrugated panels are easy to install; no sash needed. Also available in flat glazing panes for replacing broken glass.

Write for detailed literature

structoglas®

Structoglas Inc., Dept. 1006 Cleveland 20, Ohio

▲ For more details circle NED-1051 K on enclosed inquiry slip ▲

New Literature & Catalogs

Decals, Nameplate & Trim Products

Allied Decals, Inc.—Survey portfolio for decals, adhesive-backed identification products, and decorative trim covers eleven basic materials from plastic through aluminum. Each descriptive sheet furnishes physical properties and lists common uses. Production samples of each material are attached to the sheets.

▲ For more details circle NED-1052 K on enclosed inquiry slip ▲

Technical Information on Gyros

General Precision, Inc., Kearfott Div.—In addition to theory of gyroscopic instruments, 50-page text, "Technical Information for the Engineer—Gyros" details performance, application, construction, and testing of these instruments. Covered are rate, rate integrating, free, vertical, and directional gyros; rate switches; stable platforms; and accelerometers.

▲ For more details circle NED-1053 K on enclosed inquiry slip ▲

Terminals, Blades & Connectors

Electric Terminal Corp.—ETCO terminals, blades, and connectors are supplied on disposable reels in continuous form for automatic machine attachment. The 28-page Catalog 60 lists standard line of terminals and connectors and illustrates electric and air-actuated machines for cold crimping, welding, and banding terminals and for cold crimping or soldering blades for electric wires.

▲ For more details circle NED-1054 K on enclosed inquiry slip ▲

Stock Permanent Magnets

General Magnetic Corp.—Loose-leaf catalog of stock permanent magnets covers all characteristics of new multiple cast, block, bar, solid and hollow cylinder, salient pole, curved path, and Genox ceramic permanent magnets.

▲ For more details circle NED-1055 K on enclosed inquiry slip ▲

Conveyor Catalog

Rapids-Standard Co.—Coordinated materials handling involving the elements of controlled movement, conveyorized accumulation, mechanical transfer, and effective control is subject of revised 44-page General Catalog GC-1. Over 144 illustrations show new techniques and applications of materials handling equipment and systems in warehousing, manufacturing, and other areas of business and industry.

▲ For more details circle NED-1056 K on enclosed inquiry slip ▲

Hole Punchers & Notchers

Punch Products Corp.—Series A and AH hole punching units featured in 16-page Unipunch catalog A will punch up to 3-in. diameter round and shaped holes in up to ¼-in. thick and ½-in. thick mild steel, respectively. Units have standard 8⅜ in. shut height and 3½ in. die height. Corner, edge, V, and shaped notches are cut by Series A notching units also described.

▲ For more details circle NED-1057 K on enclosed inquiry slip ▲

Stock Business Forms

Carteret Printing Co.—26-page 1960 brochure catalogs stock business forms, systems, and correlated equipment. Samples and prices are shown for all items. Typical of forms shown are weekly expense, continuous tabulating, and register forms, plus a ledger-check system for businesses with 20 employees or less.

▲ For more details circle NED-1058 K on enclosed inquiry slip ▲

Mechanical Shaft Seals

Muskegon Piston Ring Co., Rotary Seal Div.—Two designs in general purpose mechanical shaft seals are subject of descriptive 8-page bulletin. Type KFA is designed for applications where housing bore is a limiting factor; Type KFB, where axial length must be kept to a minimum. Seals are pressure rated to 250 psi.

▲ For more details circle NED-1059 K on enclosed inquiry slip ▲

Electrical Controls

Anderson Controls, Inc.—20-page illustrated catalog describes solenoids, coils, transformers, and electrical components. Technical data and performance charts are included. The ME Series miniature solenoids are an addition to the line.

▲ For more details circle NED-1060 K on enclosed inquiry slip ▲

Materials Handling Equipment Rentals

Clark Rentals Corp.—Complete line of fork trucks, powered hand trucks, towing tractors, and straddle carrier made by Clark Equipment Co. can be rented on contracts of from 1 to 5 years. Chart in 16-page booklet describing the plan enables owners to itemize their operating expenses and compare them with the cost of renting comparable equipment.

▲ For more details circle NED-1061 K on enclosed inquiry slip ▲

"Who's best for ON TIME deliveries of short run stampings?"

FEDERAL
SHORT RUN STAMPINGS

3 PLANTS To Serve You Better

Freddy Federal says: "Fast production and on time stamping deliveries are our specialty. Every job is speedily handled, whether a limited prototype . . . a small pilot run . . . or 10,000 or more pieces. You receive all the benefits of streamlined tooling and work flow methods in our modern one-stop plants . . . plus skilled and experienced craftsmen who are personally interested in meeting your stamping requirements. Send us your part or print today for a prompt, money-saving quotation. Time real short? Just ask for a reply by wire or phone! It's another Federal service to give you stamping deliveries on time!"
Write for illustrated catalog No. 301 with its many stamping design tips!

FEDERAL TOOL & MFG. CO.
3618 Alabama Avenue
Minneapolis 16, Minn.

FEDERAL SHORT RUN STAMPING, INC.
918 Lyell Avenue
Rochester 6, New York

FEDERAL STAMPING CO.
7318 Atoll Avenue
No. Hollywood, California

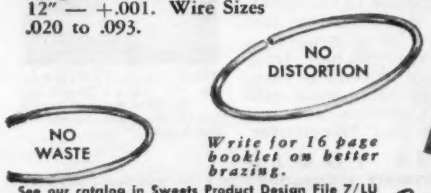
▲ For more details circle NED-1062 K on enclosed inquiry slip ▲

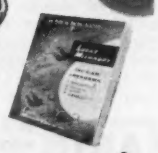
NO TANGLE-NOTCH COIL

brazing rings

Snap OFF COIL
PLACE ON PART

Preformed No Tangle-Notch Coil Rings end wasted time in placing silver solder in position for brazing operations. Rings fit quickly and accurately on parts to be joined. Cut and try methods and resulting rejects are eliminated. Silver solder is actually metered to flow evenly — positive bond. Ring Diameters from ¼" to 12" — +.001. Wire Sizes .020 to .093.





Write for 16 page booklet on better brazing.

See our catalog in Sweets Product Design File 7/LU

LUCAS-MILHAUPT *Engineering Co.*
5070 South Lake Drive, Cudahy, Wisconsin

▲ For more details circle NED-1063 K on enclosed inquiry slip ▲

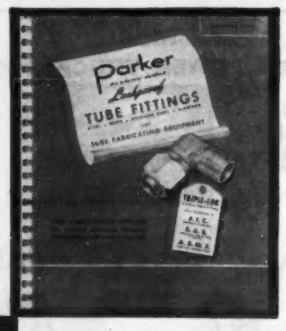
The WELLS Model 600 Metal Cutting Band Saw

for Tool and Stock Room Service
•
for Medium Production Jobs

Rugged in design, dependable in operation, the Wells Model 600 is the ideal saw for tool and stock rooms . . . gives excellent service on medium production jobs. Uses ⅝" blade. Adjustable, uniform gravity feed is provided by hydraulic stabilizer and special coil spring. Casters available for portability. Write for Bulletin 260-A.

The Pioneers of Horizontal
Wells METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1313 Harding Street • Three Rivers, Michigan

▲ For more details circle NED-1064 K on enclosed inquiry slip ▲



Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write . . .

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

▲ For more details circle NED-1065 K on enclosed inquiry slip ▲

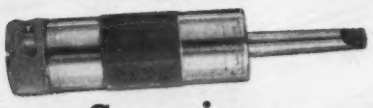
SUPERIOR MAKES HONING POSSIBLE AT LOWER COST

MODEL VH SUPERIOR HONING HEAD

Adaptable to most drill presses. Designed for honing work too heavy to hold on machine, and to have all the convenience of operation of Superior Honing Machines. Range 1/8" to 3". Size dial on bottom of head permits the increasing or decreasing of size while in operation.

No stopping of spindle necessary. Lever releases stone from work and expands stone to same size under spring pressure on next part. Only adjustment necessary to duplicate size is for stone wear.

Makes Any DRILL PRESS a VERTICAL HONING MACHINE



Superior MD-1 Mandrel Driver

Rapid, economical hole finishing and sizing with .0001 accuracy. Ideal for die work, bushings, dowel pin holes. Only the stones contact work piece, assuring long life and preventing marks on honed surfaces.

Permanent type mandrel sizes; .120 to 3.000; available in No. 2, 3 or 4 morse tapers.

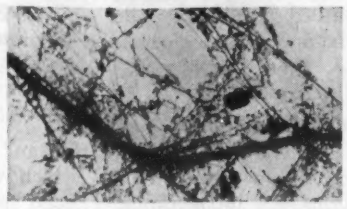
Stocked in all principal cities. Send for details and prices.

SUPERIOR HONE CORPORATION
1613 ELRENO STREET • ELKHART, INDIANA

▲ For more details circle NED-1066 K on enclosed inquiry slip ▲

New Processes & Materials

GASKETING & PACKING materials inert to most chemicals, have wide range of applications

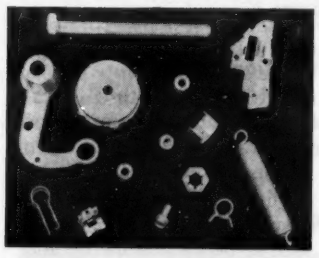


Fluorocarbon resins and inorganic fibers used in Armstrong Fluorocarbon Accopacs, a family of gasketing and packing materials, enable them to be used at temperatures from −425 to 500° F. They are unaffected by many common fuels, lubricants, hydraulic fluids, and solvents. A low coefficient of friction makes them useful as seals and packings in contact with moving parts. The materials also have good dielectric properties, good thermal dimensional stability, can be adhesively bonded, and resist deformation under load and cold flow.

Beater saturation process gives each asbestos or other fiber type a thorough coating of resin and an even distribution to form a uniform material (see photo). Offered in sheet form, materials' applications include gaskets for glass and lead lined equipment, motors, tanks, valves, fuel systems, dry transformers, motors, and air and refrigeration compressors, as well as valve discs, spacers, linings, and pads. ● **Armstrong Cork Co.**, 1270 State St., Lancaster, Pa.

▲ For more details circle NED-1067 K on enclosed inquiry slip ▲

MECHANICAL PLATING SYSTEM alloys and pure metals are applied



Corrosion protection for small metal parts and assemblies without hydrogen embrittlement is obtained with the Dyko mechanical plating system. Applied under license arrangement, plating is carried out in standard rubber-lined tumbling barrels. Cleaned parts are placed in the barrel with carefully weighed powdered plating metal, 3M Promoter chemical, and impact media. Water is then added, and entire charge is rotated for about 45 min. At end of cycle, plated parts are separated from the reusable media. Water and spent chemicals can be dumped directly into sewer without need for treatment. Thickness is controlled by the quantity of metal powder used. Present installations are applying zinc coatings, but the method is under test for extension to cadmium and other coatings. ●**Minnesota Mining & Mfg. Co.**, 900 Bush Ave., St. Paul 6, Minn.

▲ For more details circle NED-1068 K on enclosed inquiry slip ▲

Go on easily Never let go!

Electroline

WIRE ROPE FITTINGS

No wonder veteran riggers are greatest boosters for Electroline fittings—

- easy to install—any man can attach them quickly—ordinary tools
- hang on "for keeps"—damps vibration—rope lasts years longer
- use again and again
- type and size for every need

Easy step toward cutting those re-roping costs—send for handy-sized illustrated Electroline Catalog. A letter gets prompt action.

Electroline PRODUCTS
THE SUPERIOR SWITCHBOARD & DEVICES COMPANY
Box 590, Canton 1, Ohio

▲ For more details circle NED-1069 K on enclosed inquiry slip ▲

DELAVAN

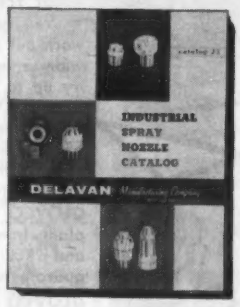
SPRAY NOZZLES for industrial use

You'll find the nozzle that's right for your specific requirements in the complete selection offered by Delavan.

Manufacturers all over the world rely on Delavan for high quality, precision industrial nozzles.

Whatever your nozzle requirements, specify Delavan.

Write for Catalog 33 for complete details and technical specifications.



DELAVAN Manufacturing Company
WEST DES MOINES • IOWA

▲ For more details circle NED-1070 K on enclosed inquiry slip ▲

DEEP HOLE DRILLING Single or Multiple Spindle

* STEP AND REPEAT ACTION—NO SHOCK
The number of steps possible is infinitely variable—to satisfy any requirement.
* Reduces breakage and over-heating of drills.
* Can be added to existing machine, or used to replace old style units.
* Adaptable to any single or multiple—spindle application.
* Self contained—Compact

Write for Literature

* Available in from 1 to 5 H.P. —up to 12" Stroke

Typical example of a multiple spindle unit drilling in medium hard cast iron.

A Drillunit—5 H.P. Capacity will drive
10 1/4" dia. drills
or 6 3/8" dia. drills
or 4 1/2" dia. drills
or 3 5/8" dia. drills
or 2 3/4" dia. drills
or 1 1" dia. drill

DRILLUNIT, INC.
HYDRAULIC DRILL UNITS
3267 Wight Street • Detroit 7, Michigan

▲ For more details circle NED-1071 K on enclosed inquiry slip ▲

BREAK THE 'PROFIT SQUEEZE' With Brightboy!

Use these NEW SLANTS to:
★ Save your time
★ cut your costs
★ improve your product quality

In multi-use Brightboy, abrasive and rubber function simultaneously to produce a finish that often constitutes the final polish:
BURRING • FINISHING
CLEANING • POLISHING
frequently in one operation.

The revolutionary new concept of abrasive applications for working all metals, wood, glass, laminated materials, some plastics. JOB-MATCHED STOCK TEXTURES, extra fine to extra coarse, in soft, semi-firm, firm and tough rubber binders. *The only complete, comprehensive stock line of soft rubber bonded abrasives.*

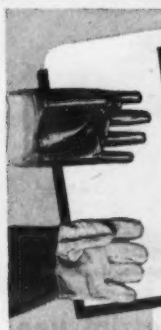
WRITE FOR THIS ILLUMINATING OUTLINE OF NEW & ADDITIONAL APPLICATIONS FOR ABRASIVES

THE NEW BRIGHTBOY CATALOG
Methods and applications • Machine speeds • Job-matched stock grains & textures • New, revised wheel sizes

WELDON ROBERTS Brightboy RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street Newark 7, N. J
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

▲ For more details circle NED-1072 K on enclosed inquiry slip ▲



DON'T throw away WORN OUT GLOVES!

PLASTIC • LEATHER • FABRIC

Check GLOVCO first!

GLOVCO'S service makes worn out gloves safe and good as new at fraction of original cost.

● Yes, before you throw away your old worn out gloves, check GLOVCO'S nationwide service first! GLOVCO is saving industry up to 90% on gloves they once threw away. GLOVCO reclaims worn dirty plastic, leather and fabric gloves, welder's gloves, mitts, hand pads. Also hot mill, terry cloth, asbestos aprons and gloves, sleeves, drop cloths, protective clothing, etc. GLOVCO service is used in thousands of plants from coast-to-coast. Write for details and FREE trial demonstration. Satisfaction guaranteed.

GLOVCO also offers a variety of NEW GLOVES at great savings.

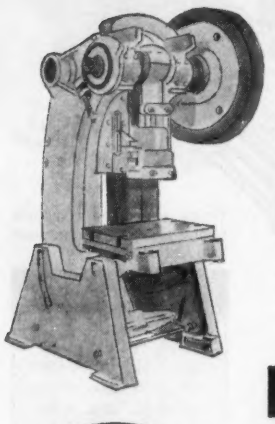
U. S. INDUSTRIAL GLOVE CORP.

9350 Roselawn Ave. Detroit 4, Mich. 1920 Rose St. Pittsburgh 19, Pa.

▲ For more details circle NED-1073 K on enclosed inquiry slip ▲

Federal's dependability assures lower production costs-longer press life!

7 TO 125-TON CAPACITY



QUALITY FEATURES

- Meehanite Cast Frames
- Replaceable Bronze Bushings
- Magnaflux Inspection
- Front-operated Recline
- Oversized Crankshaft Bearings
- Longer Rams and V-ways
- Non-repeat Clutch Mechanism
- Timken Roller Bearing Flywheels

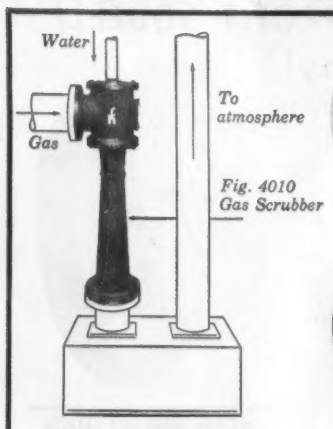
MMT-PE

FEDERAL open-back inclinable PRESSES

THE FEDERAL PRESS COMPANY

Dept. 806 Elkhart, Indiana

▲ For more details circle NED-1074 K on enclosed inquiry slip ▲



Control Fumes, Vapors, Dusts

with SK GAS SCRUBBERS (shipped from stock)

Many air pollution problems can be solved easily with high-efficiency liquid-jet gas scrubbers. SK stocks Fig. 4010 Scrubbers in popular sizes and several materials for immediate delivery. See below. Get details in Bulletin 4R.

MATERIAL	STOCKED SIZES (SUCTION & DISCHARGE CONN.)
Cast Iron	3, 4, 6 & 8 inches
Haveg	4, 6, 8 & 12 inches
Polyvinyl Chloride	4, 6 & 8 inches
Stoneware	4 & 6 inches

Schutte and Koerting COMPANY

2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.

Phone: MErcury 9-0900 TWX: Cornwells, Pa., 69-"U"

JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS

▲ For more details circle NED-1075 K on enclosed inquiry slip ▲

New Literature & Catalogs

Combustion Safeguards

Selas Corp. of America—Automatic Firechecks and safety blowouts to protect gas-fired equipment and personnel from flashback of gas-air mixtures are described in 12-page Bulletin CS-2. Piping diagrams and application information are presented.

▲ For more details circle NED-1076 K on enclosed inquiry slip ▲

Metal Spinnings

Spincraft, Inc.—"Notes for an Engineer's File" is title of monthly bulletins which will cover case histories of a broad range of metal spinning applications. Shapes produced for military, industrial, agricultural, recreational, and other industries will be shown and discussed.

▲ For more details circle NED-1077 K on enclosed inquiry slip ▲

Condulets for Corrosive Locations

Crouse-Hinds Co.—Reissued with additional information, 20-page bulletin "Condulets for Corrosive Locations" lists corrosive substances and the corrosion-resistant metals and finishes used in company's condulets. It also lists Plast-A-Coat condulets for hazardous and nonhazardous locations.

▲ For more details circle NED-1078 K on enclosed inquiry slip ▲

Solving Production Problems

Eaton Mfg. Co., Valve Div.—"Got a Problem?" is title of clever 20-page cartoon booklet, offered to help solve problems in production and development programs. Cartoons illustrate special techniques this division employs in their processes, including forging, impact extrusion, heat treating, and special assemblies.

▲ For more details circle NED-1079 K on enclosed inquiry slip ▲

Woven Wire Cloth Fabrications

F. P. Smith Corp.—Entitled "Wire Cloth Fabrications," 36-page catalog furnishes useful information for selecting the right metal, weave, and mesh when ordering warehouse stock or custom-made woven wire cloth. Many examples of fine mesh strainers, flat strainers, solid and perforated metal stampings, strainers reinforced with coarse wire or perforated metal, and small strainers with special fittings are illustrated.

▲ For more details circle NED-1080 K on enclosed inquiry slip ▲

Wheeled Carts & Trucks

Paul O. Young Co.—Several new sizes and styles of utility carts used in plant and institutional housekeeping and maintenance are included in 30-page Catalog D-63. A new line of Serv-i-Carts includes five shelf trucks of varying design. Cleaners' trucks, appliance handling trucks, and extra-large collector carts are also described, along with the standard line of collector carts, linen trucks, canvas bags, and handling equipment.

▲ For more details circle NED-1081 K on enclosed inquiry slip ▲

TRIAL SAMPLE

Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

HANDI-LUBE LIQUID GEAR COMPOSITION

Exclusive formula absolutely eliminates metal-to-metal contact on open gears, dipper sticks, cams, sliding surfaces. Keeps wear on the lubricant, not the metal! No breakdown even after prolonged use under water—available for every climatic condition. Now in extensive use in plants, pits, quarries, construction industries, etc. Packaged in 16-oz. aerosol spray-on containers in four grades—Light, Medium, Heavy and Extra Heavy. Send today for free trial sample. Specify application for which intended.

68 YEARS OF LEADERSHIP LUBRICATING THE FOLLOWING:

- Open Gears, Dipper Sticks, Cams
- Open and Enclosed Chain
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893 THE WHITMORE MANUFACTURING CO.

LUBRICATING ENGINEERS

CLEVELAND 4, OHIO • VULCAN 3-7272

▲ For more details circle NED-1082 K on enclosed inquiry slip ▲

POWER TRUCK MOBILITY... WITHOUT POWER TRUCK COST!

Hamilton's exclusive ROLL·N·STOR®

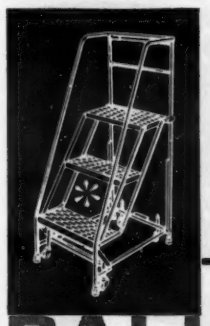
No double handling, no double costs with Hamilton Roll-N-Stor—the semi-live truck system that *lifts, moves and stores* loads quickly, easily—*keeps them mobile and ready to roll!* Easily moved by engaging lift jack to skid platform. One jack handles many platforms. System can also be used with lift trucks. Available in all-steel, steel bound, regular duty or heavy-duty wood construction.

WRITE FOR ROLL-N-STOR BULLETIN AND NEW FLOOR TRUCK CATALOG

The Hamilton Caster & Mfg. Co.

1765 Dixie Highway Hamilton, Ohio

▲ For more details circle NED-1083 K on enclosed inquiry slip ▲



LOW C.G. -more safety

BALLYMORE Safety-Step LADDERS

Safe, wide-base Ballymore pyramid design provides a new low center of gravity, gives a new stability at heights up to 15 ft. Sturdily welded, corrosion-resistant steel or aluminum Safety-Step ladders can be moved easily on casters to any area, grip floor firmly when stepped on. 4 types, 47 models.

WITH OR WITHOUT HANDRAILS

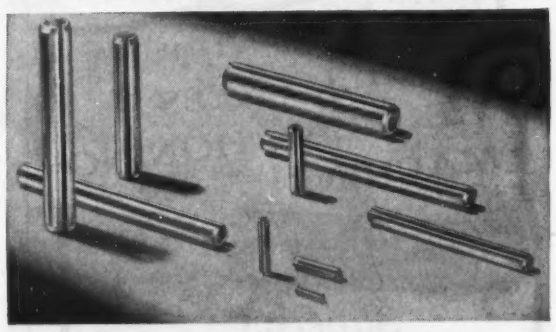
For illustrated catalog covering complete line, write to BALLYMORE COMPANY, WEST CHESTER 3, PA.

Call your LOCAL DISTRIBUTOR

BALLYMORE EQUIPMENT FOR WORKING Safely ABOVE FLOOR LEVEL

▲ For more details circle NED-1084 K on enclosed inquiry slip ▲

Now! For superior electrical properties...



SEL-LOK spring pins in beryllium copper

- High conductivity.
- Nonsparking and nonmagnetic.
- Self-locking.
- Excellent corrosion resistance.
- Swift, economical fastening (just drill and drive).
- 60% the strength of carbon steel.
- 101 uses—as keys, axles, cotter pins, hinge pins, stop pins, pivots, etc.
- Sizes from 1/16 x 3/16 to 1/4 x 3 1/2 in.

Send for Bulletin 2331—complete information on SEL-LOK spring pins, including those made of carbon and corrosion-resistant steel.

INDUSTRIAL FASTENER Division SPS

JENKINTOWN 24, PENNSYLVANIA

▲ For more details circle NED-1085 K on enclosed inquiry slip ▲

Your exact liquid temperature ••••• at the turn of a dial

CHROMALOX ELECTRIC HEAT

Fast, uniform, economical, safe

Just drill one hole and install threaded pipe coupling in tank, then screw in the Chromalox Immersion Heater. Built-in thermostat automatically maintains uniform temperature of water, oils, wax, various solutions. Several styles available, for different applications. Elements sheathed in copper or steel. Standard ratings: ¾ to 10kw, 120 or 240 volts. Thermostat range: 50° to 550°F. Inside-tank lengths from 6¼" to 48". Available with explosion-resistant and moisture-resistant terminal box.

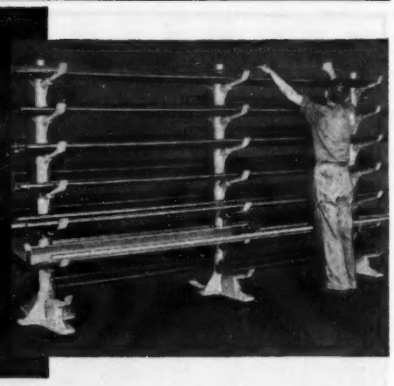
For more details, call your Chromalox Sales-Engineering Representative, or write us for Bulletin PD105, which contains specifications and prices.

32506

EDWIN L. WIEGAND COMPANY
7509 Thomas Boulevard • Pittsburgh 8, Pa.
CHurchill 2-6400

▲ For more details circle **NED-1086 K** on enclosed inquiry slip ▲

SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane—using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

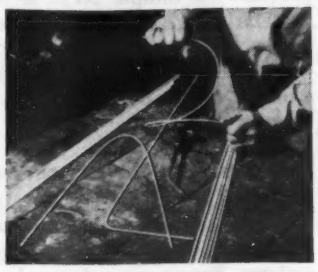
■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

▲ For more details circle **NED-1087 K** on enclosed inquiry slip ▲

New Processes & Materials

BRAZING RODS with nonfuming flux coatings



Bronze brazing rods with engineered extruded flux coatings are offered in high speed and general purpose types in 3/32, ⅛, 3/16, and ¼ in. sizes 36 in. long. The nonfuming, noncharring flux coating will not crack off the rod, even when bent over 360 degrees. It is nonhygroscopic, allowing unlimited storage of rods. Working temperature for both green thin-coated and white standard-coated rods is between 1250 to 1650° F. Rods are packaged in 10-lb tubes, six to a standard carton. • **All-State Welding Alloys Co.**, 249-55 Ferris Ave., White Plains, N. Y.

▲ For more details circle **NED-1089 K** on enclosed inquiry slip ▲

EPOXY RESIN POWDER heating starts curing process

Encapsulating, sealing, embedding, impregnating, potting, and bonding are applications for this single-component epoxy resin, a nontoxic casting powder for use with metals, glass, and plastics. The powder melts when heated, and continued heating converts the mass into a tough, infusible solid with high chemical, solvent, shock, vibration, temperature, and humidity resistance. When cured, it has good electrical characteristics. Variations of cure temperature, color, heat dissipation, thermal expansion, physical and adhesive strength, and flexibility are available. Powder is also supplied in compressed, premeasured pellet form for use in automated production. • **Joseph Waldman & Sons**, Epoxy Products Div., 137 Coit St., Irvington, N. J.

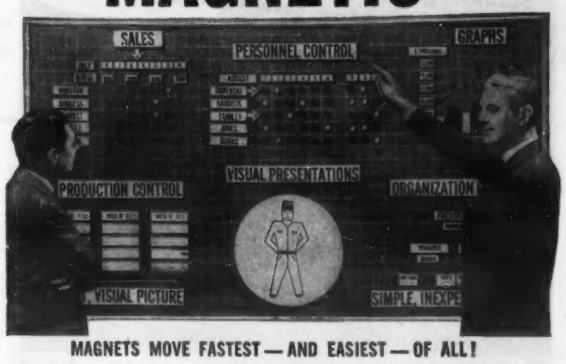
▲ For more details circle **NED-1090 K** on enclosed inquiry slip ▲

CERAMIC GRINDING ROD for coating diffusion, pebble mills

Improved No. 3663 formulation of Diamonite high density alumina ceramic grinding rod has a 15-per cent increase in wear resistance and a specific gravity of 3.5 plus. Used for grinding and diffusing ceramic and organic coatings and other pebble mill applications, it also has improved washing characteristics. Illustrated, left to right, are original grinding rod blank prior to pretesting, rod after pretesting and final forming and surface finishing, and two rods after extended use, the last after over 4 yr in service. • **Diamonite Products Mfg. Co.**, Shreve, Ohio.

▲ For more details circle **NED-1091 K** on enclosed inquiry slip ▲

VISUAL MAGNETIC CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
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COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
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PRICE LIST & BROCHURE NE10 FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105 Willow Ave., Staten Island 5, New York

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New Way to Stop Faucet Leaks!

★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.

★ NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.

★ Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-100
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name _____ Title
Organization _____
Bus. Address _____
City _____ Zone _____ State _____

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle **NED-1093 K** on enclosed inquiry slip ▲

YALE OFFERS FIRST COMPACT GAS LIFT TRUCKS

• Solid or pneumatic-tired • 3000, 4000, 5000 lbs. capacity • Gasoline or LP-Gas powered • 52 HP engine in solid-tired model, 72 HP engine in pneumatic-tired model • New, improved automatic torque transmission.

The Yale G54 series gas trucks provide compactness with speed and safety. You load trailers safer and faster with lowered seating position. Get a safer ride and shock reduction, better stability, and self-righting effect from new steering axle design. Top in-plant maneuverability and smoothest ride for load and operator from shortened turning radius and longer wheelbase. Greater strength and less deflection from double I-beam mast. Exclusive mechanical inching control.

For more information, contact your Yale Representative, or write to: The Yale & Towne Manufacturing Company, Materials Handling Division, Philadelphia 15, Pa., Dept. G-007.

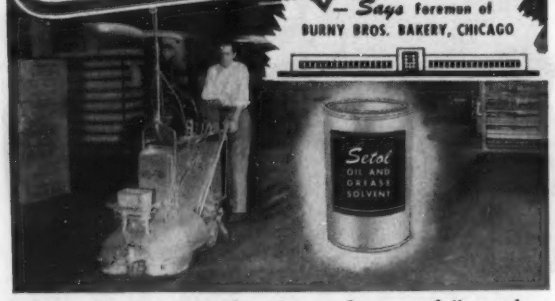
Yale Materials Handling Division, a division of The Yale & Towne Manufacturing Company. Manufacturing Plants: Philadelphia, Pa., Forrest City, Ark. Products: Gasoline, Electric, Diesel, and LP-Gas Industrial Lift Trucks • Worksavers • Warehousers • Hand Trucks • Industrial Tractor Shovels • Hand, Air and Electric Hoists.

YALE®
INDUSTRIAL LIFT TRUCKS
TRACTOR SHOVELS • HOISTS
YALE & TOWNE

▲ For more details circle **NED-1088 K** on enclosed inquiry slip ▲

"We've reduced our scrubbing time from 70 to 7 man-hours ... and our floors have never before been so clean!"

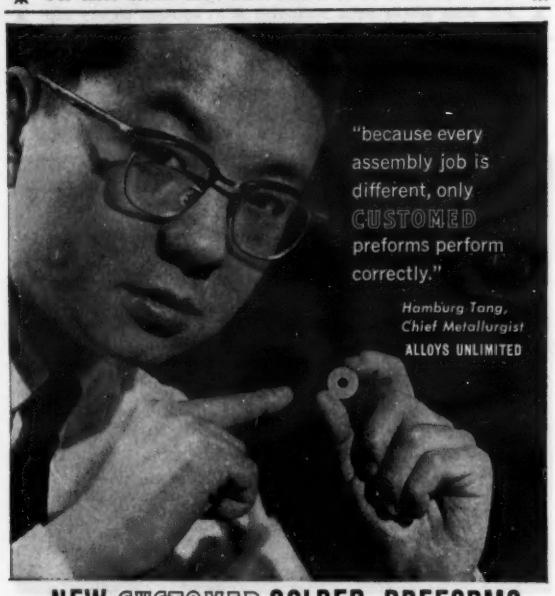
— Says foreman of BURNY BROS. BAKERY, CHICAGO



Burny Bros. garage and stockroom floors get daily scrubbing with a *Job-Fitted Combination Scrubber-Vac* and *Setol Cleanser. They're an unbeatable team* to speed the cleaning of oily, greasy floors. *Here's why:* A *Scrubber-Vac* applies the cleanser, scrubs, flushes, and picks up (damp-dries the floor)—*all in one operation! Job-fitted* to specific needs, the machine provides maximum brush coverage. Its teammate, *Setol Cleanser,* emulsifies grimy oil and grease *instantaneously* for fast, thorough removal by the machine's powerful vac. The *Scrubber-Vac* shown above, *Finnell's 213P,* cleans up to 8,750 sq. ft. per hour (and more in some cases), depending upon floor condition and congestion. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 5510 East St., Elkhart, Ind.

FINNELL SYSTEM, INC. *Originators of Power Scrubbing and Polishing Machines* FINNELL BRANCHES IN ALL PRINCIPAL CITIES

▲ For more details circle NED-1094 K on enclosed inquiry slip ▲



NEW CUSTOMED SOLDER PREFORMS IMPROVE AUTOMATIC SOLDERING

New customed preforms consist of an accurately predetermined amount of a specific alloy. The proper melting temperature and correct volume of solder are assured. Labor costs are lowered. Production increases. Scrap is eliminated. Get the facts today! Write for 8 page Guide to Preform Soldering.

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ALLOYS UNLIMITED INC

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SPROUT-WALDRON PELLET MILLS

Pelleting minimizes dusting; helps preserve original moisture content, chemical analysis and other properties; turns difficult to handle powders into free-flowing material which is easy to dry, cool, bin, sack and package; reduces storage space; adds sales appeal. For economical pelleting, specify a S-W Pellet Ace. Bulletin 182-A gives the facts.

SPROUT-WALDRON
Manufacturing Engineers Since 1866
MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION—MIXING & BLENDING — BULK MATERIALS HANDLING — PELLETING & CUBING — PRODUCT CLASSIFICATION

EP/101

▲ For more details circle NED-1096 K on enclosed inquiry slip ▲

New Literature & Catalogs

Selecting Timing Belt Drives

T. B. Wood's Sons Co.—In 8 pages, Bulletin 21103 provides "5 Simple Steps to the Selection of Timing Belt Drives." Method involves a minimum of mathematics for selecting drives for any application. A standard timing belt catalog is the only outside reference needed. Method is illustrated by a sample problem.

▲ For more details circle NED-1097 K on enclosed inquiry slip ▲

Pipe Connections & Accessories

Gray Tool Co.—44-page catalog of pipe connections and accessories designed on the Grayloc seal principle lists all new types and ratings of clamps, collar-type unions, flanges, vessel nozzles, closures, and bleeder valves. Highlight is a 10-page table of allowable working pressures for pipe and connections from 1 to 30 in. inclusive to 1500° F. Seal eliminates connection leakage at up to 40,000 psi.

▲ For more details circle NED-1098 K on enclosed inquiry slip ▲

Rotary Swaging Machines

Torrington Co.—Details of rotary swaging, an efficient, chipless metalworking process, are outlined in 24-page catalog. It introduces eight swaging machines, including three sizes of a new die closing model. Complete line of 17 swagers affords capacity for solid materials with up to 2-in. diameter and for tubing to 6-in. diameter.

▲ For more details circle NED-1099 K on enclosed inquiry slip ▲

High Production Automatic Presses

Havir Mfg. Co.—Hi-Production automatic presses ranging from 5 to 200 tons are subject of 8-page specifications catalog. It points up such press features as press feeds, frame constructions, expanded bed, air clutch, and spring applied brakes.

▲ For more details circle NED-1100 K on enclosed inquiry slip ▲

Steel Lockers

Alan Wood Steel Co., Penco Div.—Nine locker styles for office, industrial, institutional, and other uses are described with complete dimensions in 24-page Catalog 6000. These include single and double tier, multiple tier, two-person, dual, duplex, air-lite, and special lockers and basket racks. A planning-aids section provides basic information for planning an efficient locker room layout.

▲ For more details circle NED-1101 K on enclosed inquiry slip ▲

Thermocouple Developments

"Developments on High Temperature Thermocouples Using Noble Metals" and "Catalysts for Acetylenes Removal from Gas Streams" are subjects treated in detail in Vol. 1 No. 1 issue of the Engelhard Industries Technical Bulletin. Its 48 pages also report on other Engelhard research and contains abstracts of patents concerning applications of gold and platinum metals. To be placed on mailing list, write directly to Engelhard Industries, Inc., 75 Austin St., Newark, N. J.

▲ For more details circle NED-1102 K on enclosed inquiry slip ▲

NEW Cleveland Vibrator CONVEYOR for Parts Handling

The Cleveland Vibrator Company, Cleveland, Ohio, has announced a new type of vibrating conveyor for handling machined parts, that is powered by an air operated vibrating drive.

The imperceptable vibration of the conveyor moves parts along the tube and speed of movement can be regulated by changing air pressure to the drive mechanism.

One of the chief advantages of the Cleveland Conveyor is that it is self contained. No belting, heavy springing, eccentrics, gears or bulky motors are required. The conveyor is supported on soft springs or rubber mounts.

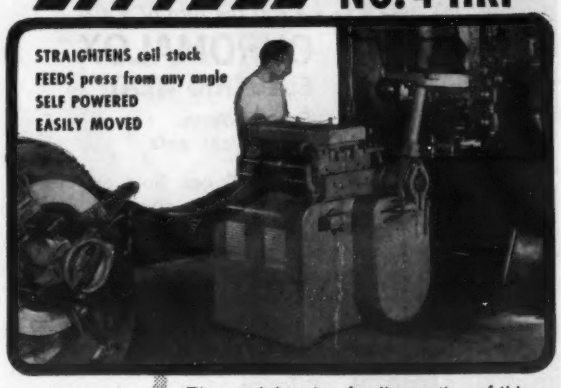
Cleveland Conveyors will feed at an up-hill angle, as great as 20° depending on conditions. This makes it possible to feed parts from floor level into a portable bin, or to other conveyors.

Cleveland Conveyors have only one moving part. There are no bearings, pillow blocks or special stanchions needed. They can be mounted either by pedestal support or overhead suspension.

For complete details, write
THE CLEVELAND VIBRATOR COMPANY
10K-2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle NED-1103 K on enclosed inquiry slip ▲

LITTELL NO. 4 HRP



The straightening-feeding action of this HRP (Hydraulic Rack and Pinion Straightener-Feed) is synchronized to the speed of the press with one electrical connection. Two standard sizes for maximum stock width of 12" and 18" and thicknesses up to .125". (Special 24" width machines not stocked.) Standard 19" feed lengths double cycled to 38".

Write for Catalog "B"

F. J. LITTELL MACHINE CO.
SERVING USERS OF COIL STOCK
Branches: Detroit Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

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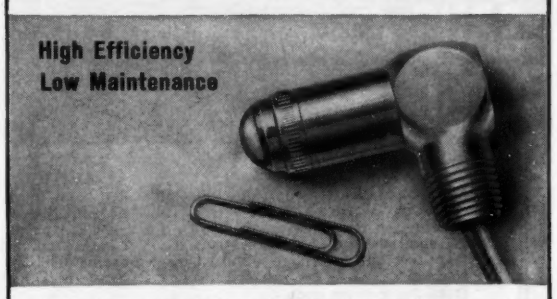
YOU name it... PHOTOMATION can do it!
Miniature "ELECTRIC-EYES"



Let us have your problems of registration, monitoring, sorting, merging and quality control.

A strategic network of outside field engineers is available for recommendations and quotes on your particular production problem. In some cases delivery can be made from on-hand stock.

Write for descriptive material—or—send us a sample of the product for laboratory testing.

• Serving Industry for Over a Quarter Century

Photomation inc.
96 SOUTH WASHINGTON AVE., BERGENFIELD, NEW JERSEY
ELECTRONIC INSTRUMENTS and CONTROLS for INDUSTRY

▲ For more details circle NED-1105 K on enclosed inquiry slip ▲

NEW Alnor PYROTROLLER® Series N

An electronic temperature controlling instrument that automatically controls the heat source to maintain a constant temperature within a set range.

Designed for temperature control on heat treating furnaces, ovens, heat sealing equipment, plastic moulding machines, cooking vessels, or any application where a precise uniform temperature must be maintained.

The Pyrotroller has a modern designed aluminum case, is compact, occupying very little panel board space. The simple rugged circuitry has a minimum of components that operate well below their rated capacities.

Write for bulletin

Alnor INSTRUMENTS
ALNOR INSTRUMENT CO.
Division of
Illinois Testing Laboratories, Inc.
Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.

▲ For more details circle NED-1106 K on enclosed inquiry slip ▲

HYDRAULIC

REMOTE CONTROL

SYSTEMS

Completely self-contained . . . single tube . . . remote control eliminates use of compensators. Rugged and reliable . . . used in engine, machine tool and many other factory applications . . . wherever positive, accurate, instant duplication of movement is needed . . . no "sponginess."

EASILY INSTALLED

Sperry CONTROLS

HYDRAULIC REMOTE CONTROLS

Representatives in Principal Cities

SPERRY PRODUCTS CO. • 1710 SHELTER ROCK RD. • DANBURY, CONN.

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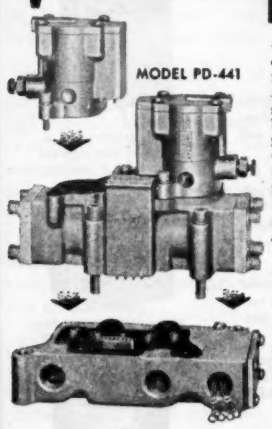
Valvair®

½" NPT PLUG-IN VALVES



4-way single or double pilot-operated types, for sub-base or manifold mounting. Aluminum and stainless steel components assure multi-million cycle dependability . . . short-stroke design speeds response. Interchangeable pilots, with coils guaranteed against burn-out for life of valve, fit any plug-in Speed King. Separate coded (4-wire) circuits on double solenoid models. Coils for ac or dc, any voltage . . . 35 — 200 psi range . . . integral junction box . . . optional manual over-ride, common or separate exhaust ports, sub-base connected external pilot supply . . . ¾ in. exhaust port, ½ or ¾ in. inlet and cylinder ports . . . flow area through valve and sub-base equals full ½ in. pipe . . . valve meets JIC standards.

For more information, write for Bulletin SPL. Address Dept. NED1060, Bellows-Valvair, Akron 9, Ohio.

8100-3

Bellows-Valvair

AKRON 9, OHIO

DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

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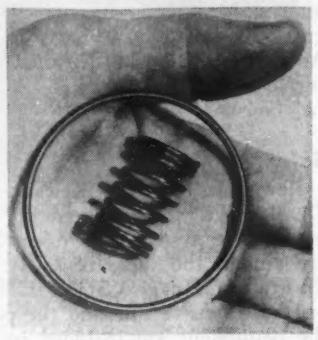
New Processes & Materials

SPRING WIRE
zinc coat is 3-7 per cent by weight



Ten to 15 times more corrosion resistance than standard tinned music wire is provided by this heavy-galvanized music spring wire which has a zinc coating of 3 to 7 per cent by weight. Wire coiled into close-pitched springs is uniformly protected. Galvanizing method assures a smooth-drawn finish with good formability. Salt spray tests show 72-hr resistance for 0.040 to 0.060-in. diameter wire. Wire is made in 0.012 to 0.060-in. sizes to standard music wire specifications and is priced the same as tinned finish. • National-Standard Co., Dept. RDT, Niles, Mich.

▲ For more details circle NED-1110 K on enclosed inquiry slip ▲

REPRODUCTION PAPER
for use in thermal type machines

Excellent reproductions with a high degree of contrast are made with Type S Temp-A-Copy thermal reproduction paper. The white plastic coated sheet for use in thermal type machines will copy two-sided material. The regular weight paper is easy to file and will not become brittle or deteriorate with age. • Stylograph Corp., 205 W. Main St., Rochester, N. Y.

▲ For more details circle NED-1111 K on enclosed inquiry slip ▲

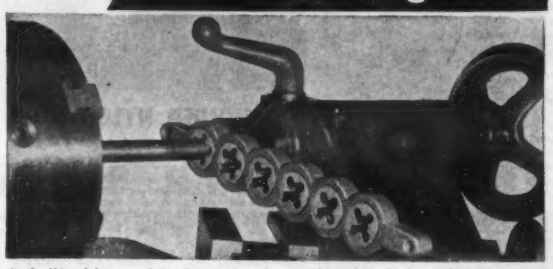
TOUCH-UP MACHINE FINISH
in self-spraying aerosol can

Offered in No. 325 dark gray and No. 326 light gray colors conforming to ASA machinery colors, self-spraying finishes for machinery, motors, and other equipment are especially suited for touch-up and refinishing. The 16-oz aerosol can is easy to use by merely pointing the nozzle and pressing the control button. • Sprayon Products, Inc., Industrial Supply Div., 2075 E. 65th St., Cleveland 3, Ohio.

▲ For more details circle NED-1112 K on enclosed inquiry slip ▲

Die Set-Up In Seconds . . .

New MOHR Threading Tool



- A "precision made" time saver for cutting threads in maintenance and machine shops.
- Dies permanently mounted in tool. Eliminates mounting of die in holder for each job.
- Better tool control—no hunting for lost dies.
- Used on lathes, pipe machines, drill presses, or as a hand tool.
- 18 popular die sizes from ½-13 to 5-40 U.S.S. and S.A.E. and ⅛" and ¼" pipe threads.

Order on 10 day approval—1-set MOHR THREADING TOOLS (3 holders, 6 dies in each holder) $39.00.
Write for bulletin

MOHR TOOL & MFG. CO.

Box 63G • Maywood, Illinois

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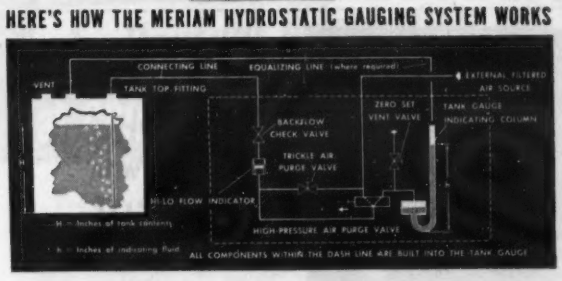
integral blow-down TANK GAUGE with continuous purging systems

HERE'S HOW THE MERIAM HYDROSTATIC GAUGING SYSTEM WORKS



Now . . . you can specify a continuous purge tank gauge and blow-down device *with all the working parts in one package!* Just pull a knob to remove condensate, scale and sludge from your tank gauging lines connected to either vented or pressurized closed tanks. Installation is simple. Meriam's new tank gauge requires only two connections to your present system. In hazardous areas, the instrument can be located as far as 800 feet from the tank. Gauges are available in single or dual blow-down units and in compact multiple-tube groups with up to six gauging tubes in one assembly.

THE MERIAM INSTRUMENT CO.

10950 Madison Avenue
Cleveland 2, Ohio

Send for Bulletin L-10 Today

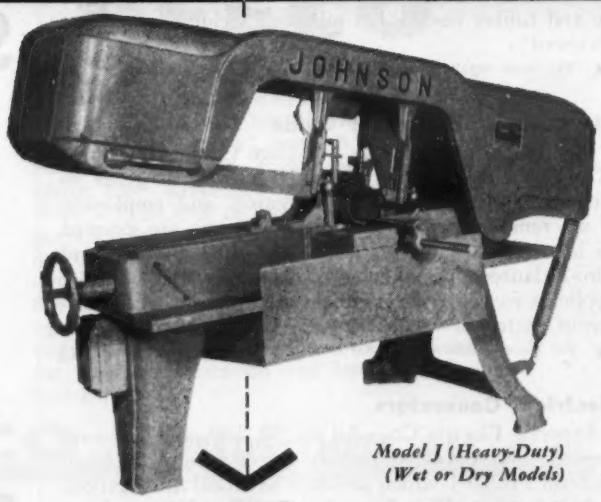
10046-MI

▲ For more details circle NED-1114 K on enclosed inquiry slip ▲

THE BIG NEW Johnson

"SPEAKS FOR ITSELF IN ANY SHOP!"

Johnson Model "J" . . . the heavy duty band saw that speaks for itself. No other saw handles so many operations so easily and so economically. Why pay more when a Johnson Model "J" can cut the 10" rounds, 18" flats and odd shaped steels of your shop in such labor saving time. The Big "J" is completely automatic—and is available in a wet or dry model, both with variable speed and centralized control system. You can't afford to miss any information on the rugged Johnson Model "J". Contact your dealer today!



Model J (Heavy-Duty) (Wet or Dry Models)

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Johnson MANUFACTURING CORPORATION
Barnes & Taylor Sts. • Albion, Michigan

▲ For more details circle NED-1109 K on enclosed inquiry slip ▲

NEW NYLON & THERMO-PLASTIC parts from GRC

Economically mass produced on fully automatic patented machines, GRC nylon parts are available from stock in many sizes and types. GRC uses single cavity techniques, molds in one automatic cycle, gets accurate, uniform parts, already trimmed.

These advantages, these economies, apply too on tiny made-to-order parts to your specifications . . . in quantities of 25,000 to many millions.

Write for bulletin describing GRC's unique methods for injection molding small plastic parts or send prints for quotation. Ask about our zinc, alloy die castings, too!

GRC MOLDED NYLON SCREW INSULATORS

These insulators and bushings are designed with wide flanges—larger than the head size of all standard commercial screws—so that they will completely isolate the screw from its mounting surface.

Molded of nylon they have a low di-electric constant, relatively high di-electric strength . . . resist high voltages at commercial frequencies . . . are particularly suited for screw insulator applications, where high tensile and torque requirements call for non-insulating screws. Naturally elastic and resilient, they can also be used as light-load bearings.

Available from stock in 1/4" and 3/8" lengths for use with screw sizes No. 4 thru 1/4".

NO SIZE TOO SMALL Maximum: 1-1/4" long .03 oz.

Write now for samples, prices and new GRC Fastener Catalog

GRIES

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
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Be sure to see us at the METALS SHOW—Booth 1211

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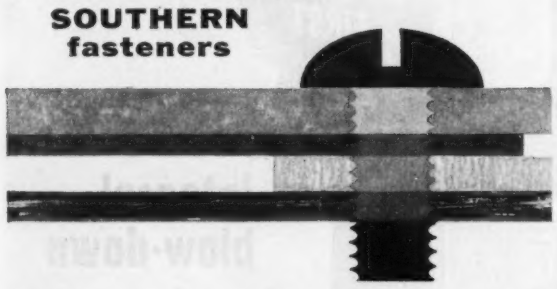
for Tough Applications
Standardize 100% on SOUTHERN fasteners



For every tough assignment in holding power, there is no substitute for Southern fasteners, made with knowledge and experience gained through nearly 15 years of specialization in fasteners exclusively. This know-how will go to work for you on tough or conventional jobs when you specify Southern Screws. That's why many industries have standardized 100% on Southern. Get in touch today with your local Southern Screw distributor, or write direct to Southern Screw Company, P. O. Box 1360, Statesville, North Carolina.

Machine Screws & Nuts • Tapping Screws • Stove Bolts • Drive Screws • Carriage Bolts • Continuous Threaded Studs • Wood Screws Hanger Bolts • Dowel Screws

Manufacturing and Main Stock in Statesville, North Carolina

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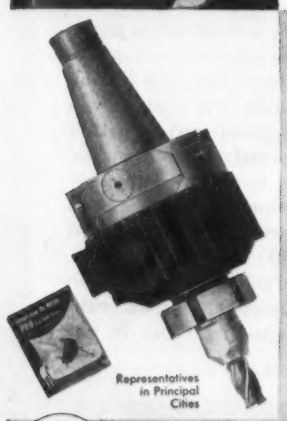
NEW P.D.Q. End Mill Driver... Cuts to Size with UNDERSIZE END MILLS*



*Now you can utilize your inventory of undersize end mills and still cut to size. The new P.D.Q. end mill driver can be offset positioned by micrometer adjustment to compensate for undersize mills. In addition, the orbital offset motion increases chip clearance, insures square slots and permits milling true to centerline. One pass cutting of key ways is now possible.

The End Mill Driver has a four to one speed ratio between spindle and cutter which enables the Driver to do the work while the machine actually loafs. This new P.D.Q. tool offers a new concept in end mill cutting . . . Write for complete information.

Representatives in Principal Cities

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

▲ For more details circle NED-1117 K on enclosed inquiry slip ▲

New Literature & Catalogs

Precision Gages

Cadillac Gage Co.—Prices and descriptions of an extensive line of thread plug and ring gages, cylindrical plug and ring gages, and pipe thread plug and ring gages are found in 40 pages of this illustrated catalog. An 8-page section is devoted to Pla-Chek gages for surface plate inspection.

▲ For more details circle NED-1118 K on enclosed inquiry slip ▲

Safety Enclosures

Kewaunee Mfg. Co., Kewaunee Scientific Equipment Div.—Glove, vacuum, and dry boxes, and controlled atmosphere systems for research and production use are among the types of safety enclosures detailed in illustrated 32-page Catalog C11-860. Technical data on the extensive line and the parts and accessories for the equipment are included in the contents.

▲ For more details circle NED-1119 K on enclosed inquiry slip ▲

Automatic Assembly Machine

Ferguson Machine Corp.—Standard rotary transfer machine for automatic assembly includes parts placing motions at the working area on the dial. As described in 8-page Catalog 602, it is adapted to the end use by adding chucks, collets, or other minor parts holding devices. Dimensions and design data are given for standard cam-actuated work station mechanisms. Case histories illustrate uses.

▲ For more details circle NED-1120 K on enclosed inquiry slip ▲

Magnetic Pickups

Electro Products Laboratories—How self-generating magnetic pickups can be used for extremely accurate mechanical-electrical conversion is related in illustrated Bulletin CMP-50. Guide simplifies pickup selection by describing the input devices in terms of size, output, temperature range, and types of mating connectors required. Detailed specifications and typical curves are included.

▲ For more details circle NED-1121 K on enclosed inquiry slip ▲

Space Age Metals

Lunex Co.—Properties of 16 high purity earth metals, most of which are available, are described in 24-page brochure "Space Age Metals" as being used in the development of highly specialized products and metals. They can be cast, rolled, swaged, extruded, and machined. Numerous pictures show the complex machines and analytical equipment used in research and preparation of these metals.

▲ For more details circle NED-1122 K on enclosed inquiry slip ▲

Equipment for Chemical Processing

Fuller Co.—Application and performance of equipment for the process industries are discussed in 12-page Bulletin G-3D. Covered are Fuller-Kinyon pumps, Airveyor pneumatic conveyors, Airslide fluidizing conveyors, rotary compressors and vacuum pumps, horizontal-grate coolers, suspension preheaters, Sutorbilt blowers and gas pumps, and Lehigh induced draft fans.

▲ For more details circle NED-1123 K on enclosed inquiry slip ▲

Work Glove Selector

Riegel Textile Corp.—Compiled for quick reference, work glove selector manual has scores of sketches and information on basic cuts, cuff styles, and other details. Grades of leather, chemical resistance, and physical properties of various plastic coatings are discussed. Canton flannel, jersey, leather, terry cloth, neoprene, plastic and rubber coated, hot mill, and welders' gloves are reviewed.

▲ For more details circle NED-1124 K on enclosed inquiry slip ▲

Air Removal Equipment Guide

Metalab Equipment Co.—52-page Catalog FH-6 on "Guided Airflow Fume Hoods" serves as a guide to modern planning, lighting, designing, and employing of air removal equipment. Several pages are devoted to laboratory planning, and Metal-Aire, Floline, and Airo-Balanced lines of fume hoods are covered. Special applications with toxic, nuclear, corrosive, and dangerous materials are considered.

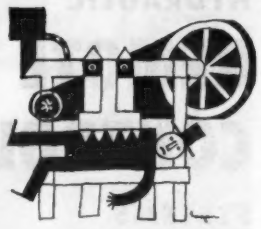
▲ For more details circle NED-1125 K on enclosed inquiry slip ▲

Electrical Connectors

Superior Electric Co.—All 25, 50, 100, and 250-amp Supercon Electrical connectors are covered in 12-page Bulletin PR259-1 which provides technical information, ratings, and outline dimensions. Offered in a range of six colors, these single-conductor plugs and receptacles have fishtail plug design, simple assembly, gold-plated brass parts, and nylon plastic parts.

▲ For more details circle NED-1126 K on enclosed inquiry slip ▲

die damage and downtime eating you alive?



protect your dies and your profits automatically

WINTRISS SYSTEMS detect non-ejection, over-load, non-transfer, mis-feed, buckling, end-of-material . . . automatically . . . economically.

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Try it . . . on these and other applications: Power presses—Transfer machines—Secondary operations—Automatic and non-automatic operations—Injection and compression molding machines.

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INSULATION TESTING
Engineering • Production • Maintenance

✓ Materials
✓ Components
✓ Equipment

High Voltage Breakdown
HYPOT Test Sets with outputs from 5 kv to 150 kv and up. Test wire, cables, transformers, motors and components to ASTM and Federal specifications. Write for manual.

Insulation Resistance
VIBROTEST Megohmmeters have direct reading ranges to FIVE MILLION Megohms. Self-contained electronic power supply eliminates cranking and leveling. Write for manual.

Insulation Materials Tester
Interchangeable test fixtures for tape, plastic sheet, film, tubing, porcelain, cloth and varnishes. Models provide 35 kv and up for test.

Insulating Oils Tester
Dielectric strength testing of insulating liquids to ASTM specifications. Rapid, simplified operation. Automatic rate of rise control optional.

Arc Resistance Tester
Tests ability of insulating materials to resist arcing in accord with ASTM and Federal specifications. Complete with electrode assembly and specimen holder.

Mobile HYPOT for testing heavy duty electrical equipment.

Model 4501 HYPOT Materials Tester. Meets D-149 etc., ASTM specifications.

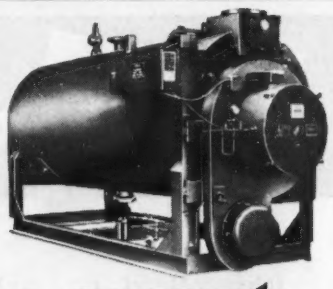
Model 4505 HYPOT Oil Tester provides 0-35 kv at 2 kva.

Write for Manual J-67

ASSOCIATED RESEARCH, Incorporated
"Electrical Testing Instruments Since 1936"
10-35.21
3765 W. Belmont Avenue • Chicago 18, Illinois

▲ For more details circle NED-1128 K on enclosed inquiry slip ▲

$ savers!



Continental 2-PASS
AUTOMATIC BOILERS

• Cost less to buy, operate and maintain • Guaranteed 80% minimum efficiency with oil or gas firing • Longer life with balanced internal circulation and uniform heating of boiler surfaces • Time-saving fireside accessibility with hinged front door, davited rear door • No costly complex refractory at front or rear • Guaranteed low stack temperature • From 20 up to 50% *efficient* reserve capacity obtainable on "F" Models • Front or rear tube removal • Completely factory-assembled and fire-tested • Fast steaming • Space-saving compactness • Completely automatic operating and safety controls • Quiet operation • Sizes 15-600 hp., 15-250 psi., steam or hot water for process or heating service • Now available on Lease or Time-Payment Plan • Nationwide sales and service • Ask for Bulletin BE-400.

CONTINENTAL BOILER DIVISION
Boiler Engineering & Supply Co., Inc.
Phoenixville, Pennsylvania

▲ For more details circle NED-1129 K on enclosed inquiry slip ▲

• SAVE POWER
• SAVE FUSES
• SAVE CLIPS

Kliploks lock fuse and clips together . . . Prevent dangerous heating and arcing at contacts . . . Stop unnecessary fuse blows. Especially recommended for "Dual-Element" fuses.

WRITE FOR BUL. NO. 6

TRICO FUSE REDUCERS

Heavy solid brass and copper parts. 250 and 600 volts. Makes it possible to use standard or dual-element cartridge fuses of sizes smaller than the fuse clips are intended for.

WRITE FOR BULLETIN NO. 8

TRICO FUSE MFG. CO. MILWAUKEE 12, WIS.

▲ For more details circle NED-1130 K on enclosed inquiry slip ▲

BURNERD MEEHANITE Precision Chucks

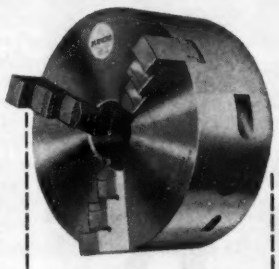
Unsurpassed in quality, precision and value!

When you buy Burnerd, you buy the best—in precision, service life and value.

Every Burnerd chuck is built to uncompromisingly high standards of accuracy. Every Burnerd chuck is *guaranteed* against defects in material and workmanship *for a period of two years.* Every Burnerd chuck is backed by the coast-to-coast sales and service organization of Clausing.

Check the wide variety of types and sizes against your requirements. Then write for a catalog and check prices—you'll be pleasantly surprised. When you invest in a Burnerd you save 20—even 30%! You get *more . . . far more . . .* with Burnerd.

Send for literature today.



GRIPTRU scroll chucks

Concentricity within .0002" TIR!

4" to 12" dia.

3- and 4-jaw universal chucks
4" to 24" dia.

4-jaw independent chucks
6½" to 28" dia.

Direct mounting and backplate mounting chucks

337

BURNERD CHUCKS CLAUSING DIVISION ATLAS PRESS COMPANY 10-215 N. PITCHER ST. — KALAMAZOO, MICH

▲ For more details circle NED-1131 K on enclosed inquiry slip ▲

New Processes & Materials

PHENOLIC LAMINATE paper-base type is flame retardant

Good electrical properties, high dimensional stability, and good punching qualities are reported for Grade T-777 Insurok paper-base phenolic laminate. Available copper clad or nonclad, flame retardant product is self-extinguishing within zero inches burning distance. Classified as a hot punching grade, it requires moderate heating. Standard sheet sizes, thicknesses, and tolerances are available. • **Richardson Co.**, 2735 Lake St., Melrose Park, Ill.

▲ For more details circle NED-1133 K on enclosed inquiry slip ▲

PLASTIC EXTRUSIONS in any color, shape, or hardness

Plastic extrusions in any color, shape, or degree of hardness are custom designed and produced to suit specific requirements. Intricacy of designs that can be created is limitless, as are the variations in color, including metallics, fluorescents, and other specialties. Company specializes in combining plastic and such reinforcing materials as strap steel, wire, jute, twisted Kraft, and fiber cord into specialized extrusions for unusual uses. • **Sackner Products, Inc.**, 901 Ottawa Ave. N.W., Grand Rapids, Mich.

▲ For more details circle NED-1134 K on enclosed inquiry slip ▲

STENCIL SPRAY PRODUCTS for blanking out and marking

Two products for shipping room use are packaged in 16-oz aerosol spray cans for easy use. Slide Spray-A-Stencil is a spray stenciling ink that is applied in a dense film. It is waterproof and is quick drying. Stencil Blank-Out completely and permanently covers old stencils, paint, labels, crayon marks, and felt pen marks. It transforms used cartons, boxes, crates, drums, and barrels into unmarked containers ready for re-use. Highly opaque and rapid drying, it is tan colored to match corrugated carton color. • Perc E. Harms Co., 1737 Harding Rd., Northfield, Ill.

▲ For more details circle NED-1135 K on enclosed inquiry slip ▲

ONLY $75

NOW-ONE WEEK DELIVERY

THIS FEDERAL MIKEMASTER has an easily read Indicator instead of the barrel graduations usually found on micrometers: There's no need to interpret a vernier. Finest measurements are read directly from Dial's clearly calibrated scale graduated in .0001". Mikemaster always *gages with same pressure.* You can gage *fast* since there's no need of carefully applying correct gaging pressure. If it's *duplicate* parts you're measuring, you'll find the push button retracting anvil and tolerance hands particularly useful, permitting tool to be used as an Indicating Snap Gage.

Mikemaster is built to last, with sturdiness to spare, and the measuring surfaces are lapped tungsten carbide. Ask to see it . . . and try it on your work.

FEDERAL PRODUCTS CORPORATION
61710 Eddy Street • Providence 1, R. I.

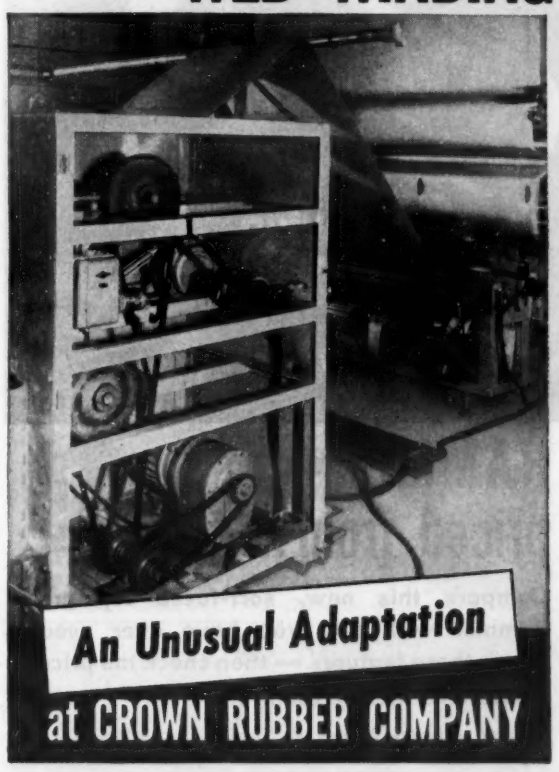
Ask FEDERAL First

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-1136 K on enclosed inquiry slip ▲

HOBBS-CHP WEB WINDING



The Foam Division of Crown Rubber Company at Fremont, Ohio utilizes Hobbs-CHP Web Winding Equipment in an unusual way. The winding stand is mounted on wheels so that it may be moved from one location to another to rewind a wide variety of web weights and widths—from cheese cloth to carpeting up to 9 feet wide—after coating with latex foam rubber. This mobility is feasible because of the light weight and compact design of the winder.

In spite of the diversity of webs handled, Crown reports that proper tension is maintained in all cases. Quality of rewound material is exceptionally high because tension is controlled automatically. The motor increases torque as the roll builds up and slows down in direct proportion. Thus constant HP, which is the equivalent of constant tension, is maintained.

Hobbs has the answer for practically any web winding problem. Its various types of winders are described in "Principles and Practices of Modern Winding". Send for your copy. No obligations.

HOBBS EST. 1882 WEB WINDERS • SLITTERS SHEARS (Hand & Power) • DIE PRESSES • AUTOMATIC CUTTERS

Manufacturing Company
41-J Salisbury St., Worcester 5, Mass.

Representatives in Irvington, N. J., Chicago, Cleveland, Louisville, Greenville, S. C., Los Angeles, Toronto and other Principal Cities

102-9

▲ For more details circle NED-1137 K on enclosed inquiry slip ▲

GREAT NAMES IN INDUSTRY produce MORE for LESS with PEECO

The story at PEECO can best be paraphrased — "... known by the company they keep . . ." The long list of companies that now 'produce more', because PEECO vibratory feeders are engineered to work, reads like America's industrial "Who's Who". PEECO'S technical knowledge in parts feeding can help you schedule one or more parts at a given rendezvous at a predetermined rate per hour and oriented to the exact position desired. Obviously this generates great savings. Let PEECO sales engineers help you 'produce more'. Send for new literature on the latest feeding technique.

PEECO FEEDS THEM ALL

VFC and PEECO are divisions of AUTOMATION DEVICES, INC.

TWO GREAT NAMES IN PARTS FEEDING

AUTOMATION DEVICES INC.
32nd and BRANDES STS., ERIE, PA. • PH. GL 6-5381

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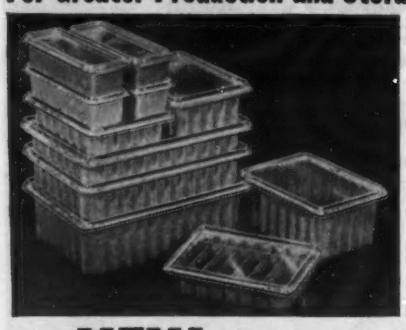
For Greater Production and Storage Efficiency



use **NEW** *all-purpose*

P-C PRODUCT CONTROL BOXES

Made of tough, durable, lightweight co-polymer. Clear butyrate covers. Polyethylene dividers optional. For almost anything solid or liquid—small metal or plastic precision parts, food, oils, chemicals, etc. Long-lasting, resistant to dirt, damage, aqueous acids, alkalies and salt. Easy to stack. Exceptionally low quantity prices. Immediate delivery of standard sizes from stock.

★ SPECIAL FIRST ORDER BONUS OFFER ★

Write for complete information and price list—

PANEL CONTROLS DIVISION

EXPORT CORPORATION

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Phone: WEbster 3-5801

▲ For more details circle NED-1138 K on enclosed inquiry slip ▲

the new nylon soft-faced NYLOGRIP

HAMMER priced from.... $1.55

Compare this new, soft-faced Nylogrip hammer with any you have ever used. Check these features — then check the price.

EXCLUSIVE WITH NYLOGRIP:

Extra rugged Nylon 6 Tips — job tailored to your needs. Screw on, off in seconds. Longest-lasting tips you'll find.

Solid steel head — heft and durability where you need it.

True-balanced wood handles — just naturally feel right without extra weight or loss of safety.

A hammer for every need — no less than 6 weights, sizes!

Lower cost — price is best news of all — as low as $1.55 postpaid!

Use this handy coupon or your own purchase order form.

NYLOGRIP PRODUCTS 568 Pleasant St., Watertown, Mass. WA 6-0100

Send checked items to:

NAME: _____

ADDRESS: _____

Quantity	Hammer Model	Weight Lbs.	Price	Replacement Tips Per Pair
	150	¼	1.55	.60
	200	½	1.70	.60
	300	¾	2.55	1.20
	400	1	2.85	1.20
	600	1½	4.20	1.65
	1000	2¼	7.10	3.70

QUANTITY DISCOUNT:
1-4 hammers...Net — 5-10 hammers...10% — 11 & over...15%
Applies to any assortment of weights.

▲ For more details circle NED-1139 K on enclosed inquiry slip ▲

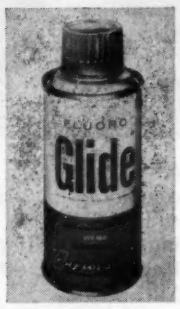
New Processes & Materials

PLASMA COATING MATERIALS
coatings spray-applied at high heat

Wide range of boride, carbide, nitride, and oxide powders for use in plasma arc spraying equipment is now available. With plasma equipment producing flame temperatures up to 15,000° F and inert or nonreactive atmospheres when necessary, full advantage can be taken of the erosion and corrosion resistant, high temperature, and electrical properties of these materials. Supplied in powder form, they vary in density, thermal conductivity, emissivity, specific heat, and other physical properties. The size range of minus 150 mesh plus 325 mesh is generally most suitable for feeding. Seven boride, six carbide, one nitride, and eight oxide powders are available in this and four other particle size ranges. • **Norton Co.**, Electro-Chemical Div., Box 87, Niagara Falls, Ont., Canada.

▲ For more details circle NED-1140 K on enclosed inquiry slip ▲

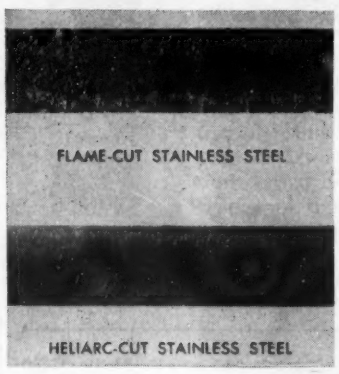
DRY FILM LUBRICANT
packaged in aerosol container



Galling, freezing, or abrasion of adjacent surfaces is prevented by application of a smooth, quick-drying, almost frictionless film of Teflon from an aerosol container. Fluoro Glide multipurpose dry film lubricant is nongreasy, does not drip or cake, and is inert to most chemicals. It can be used continuously at temperatures as high as 600° F or in the cryogenic range. Laboratory and industrial applications include sliding instrument parts, glass stopcocks, reciprocating parts, threaded connections, and assembly of glass and rubber tubing. • **Chemplast Inc.**, 3 Central Ave., East Newark, N. J.

▲ For more details circle NED-1141 K on enclosed inquiry slip ▲

STAINLESS PLATE CUTTING
service uses tungsten-arc cutting



Carbide precipitation is almost completely eliminated by Heliarc tungsten-arc cutting of stainless steel plate, because the 28,000° F arc is shielded and constricted by a sheath of argon-hydrogen gas. The cutting service can be applied to making rings, circles, and irregular shapes cut from plate up to 2½ in. thick. Edges cut by this process are clean, free of contamination, and retain their corrosion resistant characteristics. They are smoother than if cut by a hack saw, and distortion and discoloration are minimized. Photos show the process contrasted with flame cutting. Service is available at four company locations. • **Joseph T. Ryerson & Son, Inc.**, Box 8000-A, Chicago 80, Ill.

▲ For more details circle NED-1142 K on enclosed inquiry slip ▲

STAINLESS STEEL CLEANER
removes spots, stains, and marks

Gentle wiping application of this stainless steel cleaner gives the metal a satin smooth finish that resists water spotting and fingermarks. It removes all spots, stains, and marks without hard rubbing and leaves no residue. It may be used on kitchen, washroom, and laboratory equipment, waste receptacles, building trim, and industrial applications. Price is $2.75 per quart, $3.95 per ½ gal, and $6.95 per gallon. • **D. J. Alexander Corp.**, 2944 E. Venango St., Philadelphia 34, Pa.

▲ For more details circle NED-1143 K on enclosed inquiry slip ▲

Kewanee HYDRAULIC TRUCK DUMPERS

WILL ENABLE YOU TO HANDLE INCOMING BULK MORE EFFICIENTLY

your production will flow with greater speed and smoothness

KEWANEE'S unload any size truck or trailer in one to two minutes. They're made in sizes up to 70 ft., scale or non-scale types. The load can be weighed in—dumped a moment later and vehicle reweighed with accuracy. Gives you better control of incoming materials.

"KEWANEE" is the Pioneer Truck Dumper—40 years young. Many exclusive features assure finest performance. 50 ft. Dumper shown is unloading pulp chips in a paper mill.

Periodic Inspection Service is available to Kewanee users wherever located. Your Dumper is never an orphan after you buy it.

Let us engineer a Kewanee into your layout. Write for complete specifications.

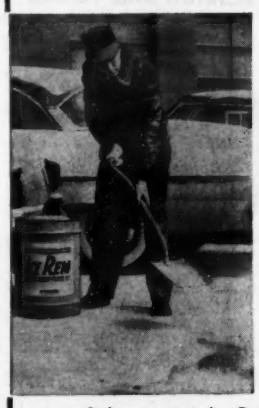
SCREW CONVEYOR CORPORATION 719 HOFFMAN STREET HAMMOND, INDIANA

Southern Plant WINONA, MISSISSIPPI — West Coast Plant SANTA CLARA, CALIFORNIA

Branch Offices: Hackensack, N. J. Dallas, Texas Memphis, Tenn. Tampa, Florida

▲ For more details circle NED-1144 K on enclosed inquiry slip ▲

New Ice Rem Super melts ice and snow fast!



Ice Rem Super melts ice and snow up to 30 times more effectively than other materials sold for the same purpose . . . provides 40% greater quantity at no extra cost.

Composed of thin, crystalline chips, Ice Rem Super has an almost unlimited number of "active" faces. When in contact with ice, these faces immediately generate heat and melting action begins. Also, unlike pelletized products, Super stays put on steps, walks, ramps — any surface upon which it is applied.

Another important Ice Rem Super feature is extreme lightness of the material. One lb. of aerated Ice Rem Super is 40% greater in bulk than one lb. of old style pellets. This results in substantial savings in the quantity of material required for effective ice melting.

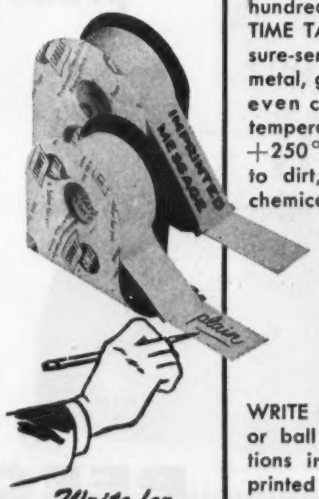
Ice Rem Super is pure white. It leaves no messy residue. It will not discolor carpets, floors, tiles, etc. Like other Speco ice melters it contains Speconite rust inhibitor and Eo. The latter, a combination of special essential oils, creates a moisture seal within the container to maintain chemical stability.

Ice Rem Super is packaged in 100-200-300 lb. fiber drums. In ton lots, shipments are made in 80-lb bags. For complete Ice Rem Super data, write **Speco, Inc., 7308 Associate Ave., Cleveland 9, Ohio. Ask for bulletin LL-8316.**

Send for United States Testing Co. laboratory report No. 61167.

▲ For more details circle NED-1145 K on enclosed inquiry slip ▲

INDUSTRIAL TAPES



Write for samples and literature!

Plain or pre-printed labels for hundreds of industrial uses! TIME TAPE & LABELS are pressure-sensitive . . . they stick to metal, glass, plastic, rubber . . . even cloth! They withstand temperatures from −120° to +250° with absolute resistance to dirt, grease, moisture and chemicals.

TIME SELF-STICKING LABELS VINYL COATED

WRITE ON IT! Use pen, pencil or ball point. Unlimited variations in stock or custom pre-printed labels available for numbering, inventory, inspection, etc.

PROFESSIONAL TAPE CO., INC.

Dept. N.S.P. 355 Burlington, Riverside, Illinois

▲ For more details circle NED-1146 K on enclosed inquiry slip ▲

Chemically Inert Dry Bearing Material

Chemloy 719*

use without lubricant!

Chemloy 719 is proving to be the most *universal* dry bearing material ever offered to industry:

. . . because its extremely low coefficient of friction invites use where lubrication is impossible, impractical or undesirable.

. . . because it may be used on both sliding and rotating applications over a wide temperature range.

. . . because it is impervious to practically all known chemicals, solvents or corrosives.

. . . because it is excellent under vibration or shock service conditions.

. . . because it will not conduct electricity or cause galvanic corrosion.

Chemloy 719 is available in all basic forms—such as sheet, rod or tubing—or in parts molded or machined to specifications. Get full details.

*The best in Teflon based bearing materials.

Request Bulletin T-120 and Price Sheet No. 126, or send b/p or specs. for quotation on molded or machined parts. Crane Packing Co., 6411 Oakton St., Morton Grove, Illinois. *(Chicago Suburb) In Canada: Crane Packing Co., Ltd., Hamilton, Ontario,*

Teflon is a DuPont Trademark

John Crane CRANE PACKING COMPANY

▲ For more details circle **NED-1147 K** on enclosed inquiry slip ▲

LIFT - LOWER - PULL

with The

PORTABLE

"Cadillac"

WINCH HOIST

Capacity

½ Ton —1½ Ton — 2 Ton

It's SAFE! It withstands 50% overload! *Every* hoist is pre-tested to full capacity before it leaves the factory. It is easy to handle because it is made of light weight aluminum alloy with stainless steel shafts and springs. Aircraft cable assembly is replaceable without dismantling. Snap-on reversible handle speeds operation. Distributors in all major cities.

PAT. NO. 2,738,954
PAT. NO. 2,927,771

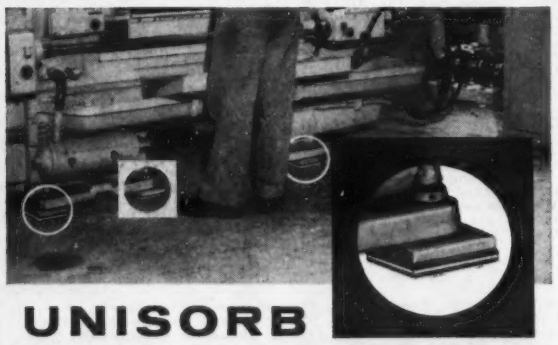
SEE YOUR DEALER TODAY

Full year guarantee against defective workmanship and materials

ALUMINUM PRODUCTS, INC.

698 S.W. 2nd AVE. ESTABLISHED 1943 FT. LAUDERDALE, FLORIDA

▲ For more details circle **NED-1148 K** on enclosed inquiry slip ▲



UNISORB

Saves over $15.00 on Every Machine Installation

The Minneapolis-Honeywell Regulator Co. Valve Division at Fort Washington, Pa., found that Unisorb pads actually pay for themselves! Here's why:

- Labor costs alone saved about $15.00 per machine (mounting time)
- There were savings on anchoring materials
- Reduces noise and vibration up to 85%
- Greatly reduced hours lost in moving
- Machines kept in alignment
- Provides ease of shop rearrangement
- Machines stay anchored in place

Company after company is discovering these same facts — that Unisorb Pads and Unisorb Level-Rite Mounts can save time and money, and cut noise and vibration, every time a machine is installed.

TRY A SET IN YOUR PLANT! UNISORB is available at leading Industrial Distributors, or write direct for the special Unisorb Money-Back Trial Offer.

FE9-63

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New Literature & Catalogs

Wire Cloth Calculator

Multi-Metal Wire Cloth Co.—Quick means of determining flow rate, pressure drop, particle retention, wire diameter, widths, and types of weaves of filter cloths and some plain, industrial weight, woven screens is provided by this pocket size slide rule calculator.

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Electronic Plugs & Connectors

GC Electronics Co.—Photograph and dimensional drawings are included for each product covered in electronics components Catalog FR-61-E. Included are plugs, jacks, adaptors, connectors, shielded jacks, cord-mounted jacks, and pushbutton switches. Prices are given.

▲ For more details circle **NED-1151 K** on enclosed inquiry slip ▲

Interchangeable Hydraulic Cylinders

Sheffer Corp.—Improved C4H Series 2000-3000 psi interchangeable hydraulic cylinders are subject of 16-page Catalog 260 which is arranged for fast, easy reference to pertinent information. Made in 1⅛ to 12-in. bores with 17 mountings, cylinders meet or exceed JIC standards and have easily removed rod cartridges.

▲ For more details circle **NED-1152 K** on enclosed inquiry slip ▲

Selenium Rectifiers

Edal Industries, Inc.—Electrical and dimensional data are presented in 8-page bulletin on high voltage selenium rectifiers, selenium diodes, arc suppressors, and contact protectors. Rectifiers cover current ranges from microamperes to thousands of amperes, and voltages from tenths of a volt to many kilovolts.

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Air-Hydraulic Oscillating Motors

Roto-Tork Mfg. Co.—Line of double and single vane pneumatic or hydraulic oscillating motors described in 8-page Form 601 is designed to convert air or hydraulic pressure into instant, full power torque. Standard units produce torques from 100 to 430,000 lb-in., whereas heavy-duty line is built for 2000-psi operation.

▲ For more details circle **NED-1154 K** on enclosed inquiry slip ▲

Industrial Signs

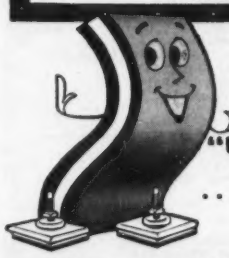
Ready Made Sign Co.—"Signs for Safety" is title of Catalog 19 of stock industrial signs. These include signs covering fire prevention, radiation, information, traffic, civil defense, and various business needs.

▲ For more details circle **NED-1155 K** on enclosed inquiry slip ▲

Gas Turbine Power Generation

Clark Bros. Co.—Comparative analysis of gas turbine, steam, and diesel generating plants points up the economic advantages of both stationary and mobile gas turbine plants. Such an analysis is found in illustrated Bulletin 202. Major factors such as installed cost, fuel, operating cost, and the time value of money are reviewed in its 8 pages.

▲ For more details circle **NED-1156 K** on enclosed inquiry slip ▲



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FE 9-4

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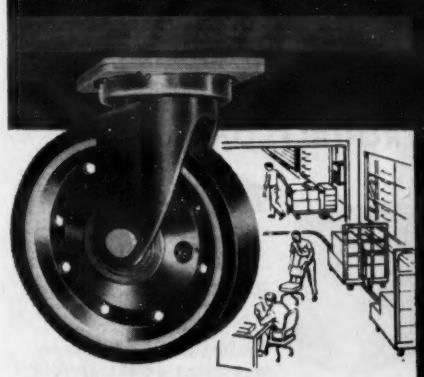

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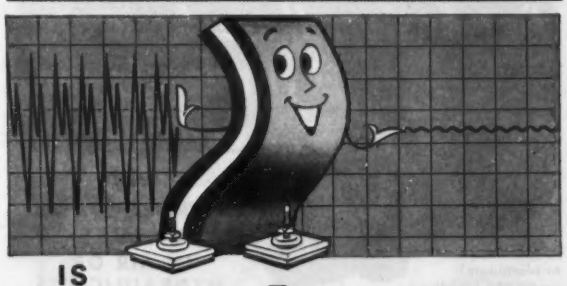

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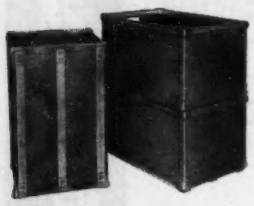

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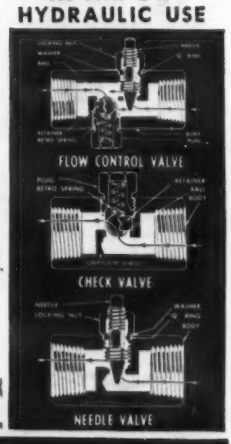

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Index to Advertisers

A

A & A Mfg. Co., Inc. 64
ACF Industries, Inc., W-K-M Div. 100
Abrasive Products, Inc. 30
Accurate Mfg. Co. 33
Acra Electric Corp. 119
Acromark Co., The 18
Adams, R. P., Co., Inc. 5, 92
Aero-Motive Mfg. Co. 72
Aeroquip Corp. 70
Aerovent Fan Co., Inc. 21
Agastat Timing Instruments, Div. of Elastic Stop Nut Corp. of America 39, 86
Aget Mfg. Co. 17
Air-Hydraulics, Inc. 76
Air-Maze Corp. 95
Air-Shields, Inc. 35
Airetool Mfg. Co. 82
Akro-Mils, Inc. 4
Alan Wood Steel Co. 77
Albion Industries, Inc. 104
Alemite Div., Stewart-Warner Corp. 67
Alkon Products Corp. 102
Allen-Bradley Co. 30
Allenair Corp. 41
Allied Radio 50
Allis, Louis, Co., The 30
Alloys Unlimited, Inc. 112
Alnor Instrument Co. Div. of Illinois Testing Laboratories, Inc. 112
Alpha-Molykote Corp. 72
Alsop Engineering Corp. 11
Aluminum Co. of America 29
Aluminum Products, Inc. 117
American Air Filter Co. 21
American Hoist & Derrick Co., Crosby-Laughlin Div. 85
American Machine & Foundry Co., Thompson-Bremer & Co. Div. 20
American Machine & Tool Co. 23
American Metal Products Co. . 56
American Meter Co. 82
American Optical Co., Instrument Div. 53
American Optical Co., Safety Products Div. 44
American Pulley Co. 81
American Society for Metals. . 3
Ames, B. C., Co. 62
Anderson, V. D., Co, ...35, 90
Apextro Products Co. 2
Arcos Corp. 99
Armstrong-Blum Mfg. Co. 55
Armstrong Bros. Tool Co. ... 77
Aro Equipment Corp. 107
Artus Corp., The 38
Associated Research, Inc. ... 114
Associated Spring Corp. 27
Atlantis Electronics Corp., Bellows Mfg. Div. 6
Atlas Press Co., Clausing Div. 30, 115
Auburn Plastic Engineering .. 8
Aurand Mfg. & Equipment Co. 9
Aurora Pump Div., The New York Air Brake Co. 3
Auto-Ponents, Inc. 20, 118
Automatic Transportation Co. 26
Automation Devices, Inc. ... 115
Avery Label Co. 76

B

Badger Meter Mfg. Co. 38
Bahnson Co. 66
Bal, William, Corp. 118
Ballymore Co. 110
Barreled Sunlight Paint Co. .. 6
Barrett-Cravens Co. 103
Basnik, Vince, Co., The 32
Bassick Co. 66
Bausch & Lomb Optical Co..32, 94
Beacon Boxes, Inc. 20
Bead Chain Mfg. Co. 104
Beam Products Mfg. Co. 90
Beck Equipment Co. 41
Becker Brothers Carbon Co. . 90
Beckett-Harcum Co. 16
Bellows-Valvair 28, 113
Bennett Pump Div., John Wood Co. 71
Bergen Wire Rope Co. 83
Bettcher Mfg. Corp., Panelbloc Div. 37
Beverly Shear Mfg. Co. 18
Biddle, James G., Co. 78
Bimba Mfg. Co. 16
Binks Mfg. Co. 46
Black & Decker Mfg. Co. 22, 120
Black & Webster, Inc. 98
Boiler Engineering & Supply Co. 114
Bokum Tool Co. 68
Boos, John, & Co. 4
Borroughs Mfg. Co. 50
Bostitch, Inc. 19
Bowser, Inc. 83
Boyar-Schultz Corp. 106
Bradley Washfountain Co. 85
Breeze Corporations, Inc. ... 92
Brightboy Industrial Div., Weldon Roberts Rubber Co. 109
Brighton Screw & Mfg. Co. .. 42
Brook Motor Corp. 96
Brookfield, Inc. 74
Brooks & Perkins, Inc. 54
Brown, W. R., Corp. 39
Brown Engineering Co. 111
Browning Mfg. Co. 2
Buell Engineering Co., Inc. .. 24
Buffalo Meter Co. 42
Bumpers, Inc. 100
Burnitol Mfg. Co. 10
Buschman, E. W., Co. 8
Bussmann Mfg. Co. 60, 61

C

Cambridge Wire Cloth Co. 59
Campbell Chain Co. 52
Carpenter Steel Co. 33, 74
Carter Controls, Inc. 18
Carter Products Co., Inc. 37
Central Safety Equipment Co. 72
Chain Belt Co. 47
Charleston Rubber Co. 80
Chart-Pak, Inc. 101
Chicago Tool & Engr. Co. .. 56
Chicago Wheel & Mfg. Co. .. 76
Chisholm-Moore Hoist Div. .. 6
Clair Mfg. Co., Inc. 24
Clark-Cutler-McDermott Co. . 106
Clark Door Co., Inc. 58
Clausing Div., Atlas Press Co. 30, 115
Clements-Cadillac Quik-Vac . 14
Clements Mfg. Co. 14
Cleveland Crane & Engineering Co. 80
Cleveland Tramrail Div., Cleveland Crane & Engineering Co. 80
Cleveland Vibrator Co. 112
Cleveland Worm & Gear Co. . 64
Cochrane Corp. 60
Coffing Hoist Div. of Duff-Norton Co. 92
Colson Corp. 117
Columbia Electric Mfg. Co... 52
Columbus McKinnon Chain Corp. 7
Commander Mfg. Co. 88
Commercial Centerless Grinding Co. 58
Commercial Shearing & Stamping 69
Cone Drive Gears, Div. Michigan Tool Co. 84
Conveyor Specialty Co. 71
Convoy, Inc. 96
Cooke, Troughton & Simms, Inc. 5
Cool-Amp Co. 85
Coppus Engineering Corp. .. 28
Corning Glass Works 60
Cover, H. S. 8
Crane Packing Co. 117
Crescent Mfg. Co. 70
Cullen-Friestedt Co. 47
Cunningham, M. E., Co. 105
Cushman & Denison Mfg. Co. 48

D

D & M Products, Inc. 73
Day-Ray Products, Inc. 9
Dayton Rogers Mfg. Co. 104
Defiance Machine & Tool Co. 54
Delavan Mfg. Co. 46, 109
Delta Power Tool Div., Rockwell Mfg. Co. 25
Deming Co. 102
Dempster Brothers 65
Despatch Oven Co. 96
Detecto Scales, Inc. 63
Detectogas Instruments, Inc.. 9
Deublin Co. 71
Deveon Corp. 68
Diagraph-Bradley Industries, Inc. 79
Diamond Expansion Bolt Co. 77
Dillon, W. C., & Co., Inc. .. 41
Dings Magnetic Separator Co. 48
Dixon Valve & Coupling Co.. 18
Dodge Mfg. Co. 23
Dollinger Corp. 43
Dow Corning Corp. 54
Drillunit, Inc. 109
Driv-Lok Sales Corp. 66
Drum Parts, Inc. 62
Duff-Norton Co. 3, 92
Dundick Tool Works, Inc. 48
Durabla Mfg. Co. 55
Dust Suppression & Engineering Co. 81
Dwyer, F. W., Mfg. Co. 94

E

EICO 54
ETC, Inc. 67
Eagle Mfg. Co. 44
Eagle Signal Co. 106
Eastern Industries, Inc. 82
Eastman Kodak Co. 105
Eaton Mfg. Co., Reliance Div. 85
Economy Engineering Co. ... 79
Edmont Mfg. Co. 56
Edmund Scientific Co. 2, 120
Elastic Stop Nut Corp. of America 39, 86
Electri-Flex Co. 52
Electro-Mechano Co., The .. 57
Electroline Products 109
Elliott Co. 41
Elliott Service Co., Inc. 4
Engler Instrument Co. 56
Eonic, Inc. 101
Equipment Mfg. Inc. 87
Erico Products, Inc. 67
Eriez Mfg. Co. 6
Euclid Crane & Hoist Co. 47
Export Corp. 116

F

Faber, A. W.-Castell Pencil Co. 34
Fabreeka Products Co., Inc.. 68
Fairbanks Co., The 40
Fallsington Mfg. Co. 4
Farrelloy Co. 120
Farval Corp. 68
Fastex Div. of Illinois Tool Works 99
Federal-Mogul Div., Federal-Mogul-Bower Bearings, Inc. 42
Federal Press Co. 110
Federal Products Corp. 115
Federal Tool & Mfg. Co. 108
Ferro Corp. 88
Finnell System, Inc. 112
Flexaust Co., The 35
Flexo Products, Inc. 87
Flexonics Corp. 86
Flexrock Co. 120
Flintkote Co. 82
Foley Mfg. Co. 22
Foster, L. B., Co. 76
Foster Supplies Co. 106
Fostoria Corp. 54
Fox, John P., Co., Inc. 3
Foxboro Co. 5
Frantz, S. G., Co. 36
Fuller Co. 104

G

Gardner-Denver Co. 51
Gardner Machine Co. 97
Garlock, Inc. 23, 88
Gast Mfg. Corp. 81
Gaynes Engineering Co. 8
Gemco Electric Co. 10
General Electric Co..12, 13, 52, 69
General Floorcraft, Inc. 45
General Radio Co. 41
General Tire & Rubber Co. .. 57
General Vacuum Corp. 10
Gerrard, A. J., & Co. 18
Gleason Reel Corp. 106
Globe Co., The, Products Div. 40
Goodyear Tire & Rubber Co. 22, 23
Gottscho 101
Gould National Batteries, Inc. 55
Granet Corp., The 107
Graphic Systems 0
Gray Co., Inc. 89
Greene, Tweed & Co. 73
Gries Reproducer Corp. 114
Grinding & Polishing Machinery Corp. 94
Grip Nut Co. 108
Guthery Machine Corp. 46

H

Hallemite Mfg. Co. 36
Haloid Xerox Inc. 103
Hamilton, Alexander, Institute 9
Hamilton Caster & Mfg. Co. 110
Hamilton Tool Co., The 5
Hammond Machinery Builders 65
Hanchett Magna-Lock Corp. . 44
Hanna Engineering Works .. 95
Hannifin Co. Div. of Parker-Hannifin Corp. 48
Hansen Mfg. Co. 96
Harrah Mfg. Co. 8
Harrington Co., The 68
Harrington & King Perforating Co., Inc. 72
Hartzell Propeller Fan Co. .. 57
Heim Co., The 70
Heinemann Electric Co. 106
Hetherington & Berner, Inc. . 94
Hevi Duty Electric Co. 72
Hild Floor Machine Co. 37
Hisey-Wolf Machine Co. 3
Hobbs, John W., Corp. 66
Hobbs Mfg. Co. 115
Hoffman Bros. Drilling Co. . 75
Hollaender Mfg. Co. 92
Homestead Valve Mfg. Co. .. 93
Hones, Charles A., Inc. 78
Hough, Frank G., Co. 83
Howard Industries, Inc. 59
Howell Electric Motors Co. .. 39
Hunt Valve Co. 51
Hydraulic Accessories Co. ... 73
Hydraulic Mfg. Co. 120
Hydraulic Press Mfg. Co. .. 84

I

Ideal Industries, Inc. 4
Ideal Stencil Machine Co. ... 102
Imperial Brass Mfg. Co. 61
Industrial Handling Equipment Co. 24
Induction Heating Corp. 86
Industrial Electronic Engineers, Inc. 10
Industrial Products Co. 6
Injection Molders Supply Co.. 73
International Latex Corp. 92

J

Jackes-Evans Mfg. Co. 39
Jacobson Nut Mfg. Corp. ... 72
Jeffrey Mfg. Co. 49
Jenkins Bros. 86
John A. Roebling's Sons Div., The Colorado Fuel & Iron Corp. 51
Johnson Bronze Co. 91
Johnson Corp., The 34
Johnson Gas Appliance Co. .. 91
Johnson Mfg. Corp. 113
Jomac, Inc. 99
Jones, Howard B., Div., Cinch Mfg. Corp. 33
Jordan Corp. Div. of OPW Corp. 77

K

Kano Laboratories 26
Kant-Slam Door Check Co. .. 20
Keckley, O. C., Co. 8
Kelley Co., Inc. 73
Kester Solder Co. 80
Kett Tool Co. 108
Kidde, Walter, & Co., Inc .. 61
Kinnear Mfg. Co. 101
Kinney Vacuum Div., The New York Air Brake Co.... 100
Krylon, Inc. 32

L

LaDeau Mfg. Co. 48
Lake Chemical Co. 106
Lakin, A., & Sons, Inc. 64
Lamb Electric Co. 83
Lapeer Mfg. Co. 98
Lapp Insulator Co. 67
Leiman Bros., Inc. 88
Lepel High Frequency Laboratories, Inc. 57
Lermer Plastics, Inc. 77
Lexco Engineering & Mfg. Corp. 100
Lift Trucks, Inc. 57
Lincoln Engineering Co. 84
Link-Belt Co. 31
Littell, F. J., Machine Co. .. 112
Logan Co. 4
Lord Mfg. Co. 49
Louden Machinery Co., The .. 93
Lovejoy Flexible Coupling Co. 17
Lucas-Milhaupt Engineering Co. 108
Lug-All Co., The 64
Lyon Metal Products, Inc. 21, 53

M

M B Electronics, A Div of Textron Electronics, Inc. .. 45
Mac-It Parts Co. 80
Macwhyte Wire Rope Co. .. 45
Madden Corp. 2
Magline, Inc. 120
Magnatrol Valve Corp. 34
Mahon, R. C., Co. 87
Manheim Mfg. & Belting Co. 44
Mark, Van D. 2
Markal Co., The 95
Markem Machine Co. 17
Marsh Instrument Co. 105
Mason-Neilan Div., Worthington Corp. 60
Masonite Corp. 73
Mathews Conveyer Co. 91
Matthews, Jas. H., & Co. .. 118
May-Fran Engineering, Inc. . 102
McGill Mfg. Co. 36, 93
Mead Specialties Co. 56
Mechanical Products Corp. .. 87
Mentor Products, Inc. 7
Mercoid Corp. 8
Meriam Instrument Co., The.. 113
Methods Research Corp. 111
Metron Instrument Co. 76
Micro-Switch, A Div. of Minneapolis-Honeywell Regulator Co. 82
Milford Rivet & Machine Co. 82
Miller Electric Mfg. Co., Inc. 79
Millers Falls Co. 68
Milwaukee Cylinder Co. 80
Minnesota Mining & Mfg. Co. 46
Minnesota Rubber Co. 28
Mitts & Merrill 91
Mixing Equipment Co., Inc. .. 44
Modern Mfg. Co., Inc. 58
Modernair Corp. 19
Mohawk Tools, Inc. 96
Mohr Tool & Mfg. Co. 113
Morrison Steel Products, Inc. 7
Morse Chain Co., A Borg-Warner Industry 10
Mosinee Paper Mills Co. .. 53
Mueller Brass Co. 52
Murphy, Jas. A., & Co., Inc. 7
Mystik Adhesive Products, Inc. 46

N

NRC Equipment Corp. 60
National Acme Co. 65
National-Detroit, Inc. 105
National Machine Products.. 99
National Screw & Mfg. Co. .. 103
National Ultrasonic Corp. 40
Naylor Pipe Co. 64
Neuses, P. K., Inc. 6
New England Carbide Tool Co. 64
New York Air Brake Co., The, Aurora Pump Div. 3
New York Air Brake Co., Kinney Vacuum Div. 100
Newage Industries, Inc. 86
Newark Wire Cloth Co. 89
Niagara Blower Co. 94
Norgren, C. A., Co. 18
Northwestern Tools, Inc. 88
Nu-Matic Grinders, Inc. 98
Nutting Truck & Caster Co. .. 89
Nylogrip Poducts 116
Nylite Corp. of America 10

O

Ohio Nut & Bolt Co. 26
Oil-Dyne, Inc. 7
Oil-Rite Corp. 82
Oilgear Co. 43
O'Neil-Irwin Mfg. Co. 5
Overbeke-Kain Co. 63

P

Packaged Merchandise Co... 107
Palmer-Shile Co. 11
Palnut Co. 86
Parker Fittings & Hose Div. of Parker-Hannifin Corp. .. 109
Parker-Hannifin Corp. 48, 50, 109
Parker Seal Co., Div. of Parker-Hannifin Corp. 50
Parker Sweeper Co. 34
Pedrick Tool & Machine Co. .. 38
Perfecting Service Co. 17
Perfection Gear Co., American Stock Gear Div. 65
Permacel 71
Pfaudler-Permutit, Inc., Pfaudler Div. 11
Phillips Process Co., Inc. 17
Photomation, Inc. 112
Pine, William S. 84
Pines Engineering Co. 50
Pioneer Rubber Co. 14, 15
Pneumatic Scale Corp., Ltd.. 52
Polymer Corp. of Penna. .. 18
Portage Double-Quick, Inc. .. 114
Potdevin Machine Co. 62
Potts, Horace T., Co., Speedline Stainless Steel Fittings Div. 88
Powers Regulator Co. 101
Prab Conveyor Co. 99
Professional Tape Co., Inc. . 116
Propellair Div. of Robbins & Myers, Inc. 89
Protectoseal Co., The 75

Q

Quadriga Mfg. Co. 103
Quickdraft Corp. 107
Quincy Compressor Co. 80

R

Radio Corporation of America 97
Rapids-Standard Co., Inc .. 55
Raymond Corp., The 98
Reed Mfg. Co. 48
Reliance Electric & Engineering Co. 33
Reproduction Engineering Corp. 78
Republic Rubber Div. 70
Republic Steel Co. 35
Research Products Corp. 93
Reuland Electric Co. 90
Revco, Inc. 90
Revolvator Co. 85
Reynolds Metals Co. 22
Richards, J. A., Co. 100
Robbins & Myers, Inc., Hoist & Crane Div. 55
Robbins & Myers, Inc., Pump Div. 38
Roberts, Weldon, Rubber Co., Brightboy Industrial Div. .. 109
Robotron Corp. 74
Rock-Tred Corp. 117
Rockwell Mfg. Co. 25
Rockwell Mfg. Co., Nordstrom Valve Div. 25
Rockwell-Standard Corp., Grating Div. 59
Rockwood Sprinkler Co. 34, 95
Roll-A-Reel 95
Roper Hydraulics, Inc. 68
Rosaen Co., The 69
Ross Equipment Co., Inc. 59
Rotary Lift Co. 17
Round, David, & Son., Inc... 24
Roura Iron Works, Inc. 47
Ruby Chemical Co. 52
Rusticide Products Co. 15

S

SKF Industries, Inc. 60, 61
Safway Steel Products, Inc. .. 62
Salem-Brosius, Inc. 75
Sauerman Bros., Inc. 79
Schlegel Mfg. Co. 83
Schmidt, Geo. T., Inc. 78
Schrader's, A., Son, Div. of Scovill Mfg. Co. 30, 97
Schutte & Koerting Co. ..15, 110
Screw Conveyor Corp. 116
Seiberling Latex Products 54
Sel-Rex Corp. 63
Sentry Co., The 58
Setlow, M., & Son, Inc. 92
Severance Tool Industries, Inc. 90
Sexauer, J. A., Mfg. Co. 111
Shakeproof Div., Illinois Tool Works 79
Shenango Furnace Co. 58
Sigmamotor, Inc. 76
Simmons Fastener Corp. 49
Simplatrol Products Corp. .. 32
Simplicity Engineering Co. .. 100
Sinclair-Collins Valve Co., The 104
Skil Corp. 24
Skinner, M. B., Co. 42
Skinner Chuck Co., The 19
Skinner Electric Valve Div. .. 78
Smooth-On Mfg. Co. 81
Snap-On Tools Corp. 14
Sommer Metalcraft Corp. 75
Southern Screw Co. 114
Special Screw Products Co. 38
Speco., Inc. 116
Speed Selector, Inc. 36
Speedi-Dri Div., Minerals & Chemicals Philipp Corp. .. 53
Speedline Stainless Steel Fittings Div., Horace T. Potts Co. 88
Sperry Products Co. 113
Spray Engineering Co. 89
Spraying Systems Co. 38
Sprayon Products, Inc. 71
Spring Specialty Co. 6
Springport Steel Products Co. 42
Sprout-Waldron & Co. 112
Square D Co. 37
Stackbin Corp. 26
Stackpole Carbon Co. 22, 79
Standard Dry Wall Products, Inc. 24
Standard Instrument Corp. .. 105
Standard Pressed Steel Co., Industrial Fastener Div. 16, 35, 81, 110
Stanford Engineering Co. 62
Stanley-Humason, Inc. 57
Stanley Works, The 17, 20, 57, 74
Sta-Warm Electric Co. 16
Stearns Electric Corp. 120
Stearns Magnetic Products Div. of Indiana General Corp. 119
Stephens-Adamson Mfg. Co. 16, 21
Stewart-Warner Corp., Alemite Div. 67
Sticht, Herman H., Co., Inc. 43
Stiles-Karlsonite Corp. 69
Stokvis Multiton Corp. 36
Stone Container Corp. 65
Stoody Co. 37
Structoglas, Inc. 108
Struthers-Dunn, Inc. 63
Sturdy Broaching Service, Inc. 102
Sturtevant Mill Co. 78
Sundstrand-American Broach Div. of Sundstrand Machine Tool Co. 78
Sunnen Products Co. 32
Superior Hone Corp. 109
Supreme Products Corp. 26
Surety Rubber Co. 69
Sutorbilt Corp. 49
Sutton Mfg. Corp. 41
Swepco Tube Corp. 76
Swift Glass Div., Swift Lubricator Co., Inc. 74
Synthane Corp. 22

T

T A Mfg. Corp. 7
Talk-A-Phone Co. 64
Taylor Instrument Companies 53
Tennant, G. H., Co. 98
Thompson-Bremer & Co., Div. of American Machine & Foundry Co. 20
Thomson Industries, Inc. ..59, 61
Thor Power Tool Co. 28
Thriftmaster Products Corp. 97
Tokheim Corp. 80
Tompkins-Johnson Co. 58
Toolset, Inc. 88
Torit Mfg. Co. 28, 103
Towmotor Corp. 40
Townsend Co. 84
Trent, Inc. 77
Triangle Mfg. Co. 5
Trico Fuse Mfg. Co. 115
Tropical Paint Co. 74
Tulsa Products Div., Vickers, Inc. 93
Twentieth Century Plastics, Inc. 19
Twin Disc Clutch Co. 81

U

Uehling Instrument Co. 9
Union Metal Mfg. Co. 60, 61
Unisorb Div. of The Felters Co. 117
U. S. Graphite Co. 97
U. S. Industrial Glove Corp. 110
U. S. Stoneware Co. 103
Utica Drop Forge & Tool Div., Kelsey-Hayes Co. 70

V

Vaco Products Co. 107
Vanton Pump & Equipment Corp. 48
Varflex Corp. 104
Vickers Inc., Electric Products Div. 49
Vickers Inc., Machinery Hydraulics Div. 10
Virginia Smelting Co. 91
Vogel-Peterson Co. 28

W

W-K-M Division of ACF Industries Inc. 100
Wales Strippit Inc. 63
Walker-Turner Div. of Rockwell Mfg. Co. 25
Watlow Electric Mfg. Co. 45
Wayne Mfg. Co. 51
Webster Electric 66
Webster Instruments, Inc. .. 23
Wells Mfg. Corp. 108
Wendnagel & Co., Inc. 67
West Bend Equipment Corp. 66
Westinghouse Electric Corp. 11
White, S. S., Plastics Div. .. 101
Wheel Trueing Tool Co. 40
Whitmore Mfg. Co., The 110
Wiedeke, Gustav, Co., The .. 44
Wiegand, Edwin L., Co. 4, 111
Wilson, K. R., Inc. 84
Wilton Tool Mfg. Co. 42
Wing, L. J., Mfg. Co. 105
Wintriss Controls Div., Industrionics Controls, Inc. 114
Winzeler Mfg. & Tool Co. .. 105
Wire & Iron Products, Inc. .. 62
Witt Cornice Co., The 91
Wolverine Tube Div., Calumet & Hecla, Inc. 16, 119
Wood, John, Co., Bennett Pump Div. 71
Wood's, T. B., Sons Co. 33
Wooster Products, Inc. 30

Y

Yale & Towne Mfg. Co. ..19, 111
Yarnall-Waring Co. 87
Yoder Co., The 34

Z

Zagar, Inc. 2
Zero-Max Co., The 43
Zippertubing Co. 36

Index to Products

A

Abrasive Products 1, 6, 30, 93, 97, 106, 109, 111
Adhesives 3, 81, 120
Air Conditioning Equipment.. 102
Alarms 10, 61
Alloys 74, 114
Aluminum 29, 52

B

Balls 14
Batteries 55, 58
Bearings 5, 21, 23, 29, 36, 47, 48, 53, 60, 61, 77, 91, 117
Belting 44, 102, 112
Belts, Conveyor 103
Bench Tops 4
Benders 38, 71, 100
Bins & Boxes 2, 4, 5, 10, 20, 26, 29, 32, 60, 61, 65, 96, 116, 118
Boilers 74, 114
Bolts 10, 29, 114
Boots 65
Brakes 32, 66, 90, 120
Brass 52
Brazing Equipment & Materials 108, 111
Broaching Equipment 78
Bronze 52, 106
Brushes, Electric 97
Brushes, Industrial 13
Building Materials ..6, 35, 78, 108
Buildings 7, 57
Bumpers, Dock 100
Burners, Oil & Gas 49
Bushings 61

C

Cabinets 4, 21, 50
Cams & Followers 101
Cans 44, 45, 75, 91
Car Spotters 16, 31
Cases & Chests 7, 86
Casters....10, 55, 64, 66, 104, 117
Castings 58
Cements, Repair 36, 68, 81
Chain & Fittings....7, 10, 47, 104
Chairs & Stools 15, 21
Charts 101
Chemicals 98
Chucks 19, 91, 115
Clamping Devices 27, 41, 77, 88, 92, 95, 98, 115
Clamps, Lifting 47
Cleaners, Air 5, 7, 17, 18, 92
Cleaners, Drain 120
Cleaners, Tube 41
Cleaners, Vacuum 4, 14, 31, 37, 60, 83
Cleaning Equipment, Blast.... .....39, 68, 73
Cleaning Machines 3, 7, 11, 19, 40, 88, 98, 100
Cleaning Materials 67, 92, 105, 107, 110, 112, 116
Clutches ...10, 32, 49, 51, 65, 120
Coating Equipment 62, 107
Coatings, Protective 15, 32, 46, 71, 88, 99, 103, 116
Collars 16
Communications Equipment 64, 89, 97
Compressors 80, 97, 102
Controls, Air & Hydraulic 1, 16, 20, 30, 51, 53, 78, 84, 102, 113, 118
Controls, Electric....1, 10, 26, 30, 37, 43, 48, 58, 61, 65, 67, 82, 93, 96, 101, 102, 106, 108
Controls, Level...8, 11, 21, 37, 96
Controls, Pressure & Temperature 8, 20, 25, 33, 62, 78, 87, 101, 102, 112
Controls, Production 1, 40, 85, 105, 111, 114
Controls, Remote 24, 31, 35, 43, 46, 73, 74, 104, 108, 113
Controls, Viscosity 35, 54
Conveyor Accessories 31, 42, 47, 49, 82
Conveyors 1, 4, 23, 50, 55, 56, 71, 76, 80, 87, 91, 93, 99, 101, 102, 108, 112, 114
Counting Devices....2, 14, 53, 105
Couplings, Flexible..10, 20, 33, 49
Crane Accessories 76
Crushers 40, 78, 101
Cutters, Metal 18
Cutoff Machines 94
Cylinders, Air & Hydraulic.. .....10, 16, 18, 19, 21, 41, 45, 56, 80, 95, 97, 117

D

Deburring Equipment 50, 76, 90, 94
Dies & Accessories...5, 7, 72, 113
Dock Covers 2
Dockboards & Ramps..54, 73, 120
Door Operators 20
Doors, Industrial...7, 58, 87, 101
Draft Inducers 107
Drafting Equipment, 34, 98, 104
Drill Heads, Adjustable 2, 84, 88, 97
Drilling Machines 5, 17, 25, 32, 33, 34, 75, 109
Drills & Accessories 52, 96
Drills, Masonry 40, 64
Drives, Machine 7, 10, 44, 47, 81
Drives, Variable Speed 2, 13, 15, 24, 33, 36, 41, 43, 64, 74, 92, 106
Drying Equipment 5, 7
Dust Collectors..8, 17, 24, 28, 35, 43, 65, 74, 81, 84, 103, 110

E

Electric Plants 117
Electronic Equipment 20, 35, 50, 54, 72, 98, 114, 117
Elevating Equipment 17, 28, 31, 79, 100
Envelopes, Transparent 19
Exhausters 107
Expanders, Tube 44

F

Fabricating Equipment 34
Fans & Blowers 4, 14, 21, 28, 41, 49, 57, 70, 89, 114
Fasteners 3, 10, 20, 23, 24, 25, 26, 27, 29, 35, 42, 44, 49, 50, 57, 58, 66, 70, 72, 77, 80, 81, 82, 84, 85, 86, 99, 100, 103, 108, 110, 114
Faucet Repairs 111
Feeders 1, 6, 16, 50, 112, 115
Filtering Equipment 12, 17, 21, 43, 69, 72, 92
Finishes..6, 15, 74, 100, 103, 113
Finishing Equipment 15, 24, 46, 71, 76, 83, 89, 93, 98
Fire Extinguishing Equipment 95
Flexible Shaft Equipment.... 104
Floor Machines 45
Flooring Materials 24, 29, 40, 59, 77, 105, 112, 117, 120
Framing 35
Furnaces, Industrial 47, 58, 63, 72, 77, 78, 91, 96
Fuses 60, 61, 115

G

Gages, Level 9, 71, 85, 113
Gages, Precision 48, 56, 62, 75, 106, 114, 115
Gages, Pressure & Temperature ..23, 33, 60, 94, 100, 113
Gearing 84, 105
Generators, Electric 12
Glare Preventives 120
Glass Products 74
Glazing Materials 8, 108
Gloves, Industrial 14, 15, 54, 56, 69, 80, 99, 107, 110, 114
Grating 40, 59
Grinding Equipment 3, 6, 59, 60, 82, 98

H

Hammers & Mallets 116
Hardboard 73
Hardware 20, 23
Heat Exchangers 94, 102
Heaters, Electric 2, 4, 45, 52, 60, 83, 111, 119
Heaters, Electronic & Induction 57, 86
Heaters, Unit 8, 11, 37, 105
Heating Equipment 68
Hinges 102
Hoists ...6, 19, 47, 55, 64, 68, 92
Honing Equipment ...32, 106, 109
Hose & Fittings....18, 22, 29, 35, 47, 70, 77, 86, 92, 94, 96
Humidifiers 66

I

Indicators, Pressure & Temperature 57, 90, 112
Inspection Equipment 2, 5, 32, 94
Instruments, Electric 65
Insulation, Electric 36, 104
Insulation, Thermal 82

J

Jacks 3, 8
Jigs & Fixtures 88, 97
Joints, Rotating 71

K

Keyseaters 91
Knives & Blades 70
Knobs 32, 71

L

LP-Gas Systems 90
Labels 75, 76, 105, 116
Ladders 22, 53, 97, 110
Lighting Equipment 9, 41, 81, 104, 120
Lights, Pilot 5, 10, 54, 86
Lockers & Shelving 21, 112
Lubricating Equipment & Materials 17, 18, 26, 67, 68, 72, 82, 84, 98, 100, 110, 116, 120

M

Machine Tool Accessories 6, 7, 41, 54, 56, 59, 72, 74, 88, 98, 102, 106, 114
Machine Tools 30, 55, 63, 81, 84, 101, 104, 106, 112, 114
Magnetic Equipment 2, 44, 48, 57, 79, 108, 119
Magnifiers 2, 5, 32, 94, 120
Management 3, 9, 72
Marking Equipment 2, 6, 17, 18, 35, 36, 47, 48, 54, 71, 77, 78, 79, 85, 95, 101, 105, 115, 118
Materials Handling Equipment ..47, 48, 60, 61, 65, 75, 76, 80, 83, 93, 108, 110, 116, 118
Meters, Flow 19, 25, 38, 39, 42, 66, 94
Meters, Tong Test 52
Mills 112
Mixing Equipment 15, 26, 44
Mold Releases 73
Motors, Air & Hydraulic 28, 48, 51, 81, 117
Motors, Electric 1, 12, 17, 25, 30, 33, 39, 49, 69, 83, 90, 96, 102, 104, 106

N

Nameplates 108
Notchers 88, 108
Nozzles, Blast 37
Nozzles, Spray 38, 89, 109
Nuts 24, 29, 70, 72, 81, 85, 86, 99, 108, 114

O

Office Equipment 13, 42, 94, 101, 108
Ovens, Industrial 22, 50

P

Packaging Equipment & Materials 3, 46, 52, 53, 62, 65, 77, 79, 82, 102
Packings & Gaskets 73, 109
Paint Removers 41
Paper Products 53
Partitions 62
Parts, Precision...59, 69, 104, 110
Perforated Fiberboard, Metal & Plastics 72
Photoelectric Equipment 112
Photographic Equipment 105
Pins 44, 58, 66, 86, 110
Pipe & Fittings 8, 11, 34, 38, 64, 76, 88, 92, 112
Pipe & Thread Compounds 99, 100, 106
Pipe Tools & Machines 13, 48, 69
Plastic Panels, Reinforced ..8, 108
Plastics....18, 22, 23, 82, 111, 115
Plating Equipment 63, 85, 109
Plugs & Caps ..22, 70, 87, 99, 101
Positioners, Linear 61
Positioners, Work 95
Power Units, Electric 36, 91
Power Units, Hydraulic 3, 7, 43, 44, 84
Press Brakes 79
Presses 3, 4, 6, 16, 34, 84, 98, 110, 112
Presses, Molding 88
Process Equipment 56
Production Facilities 29, 53, 110, 116
Pullers 3, 48, 117
Pulleys & Sheaves 24, 48
Pumps 3, 11, 38, 42, 48, 54, 55, 68, 71, 73, 80, 82, 83, 84, 114
Pumps, Air & Vacuum 10, 20, 88, 102
Pumps, Chemical....2, 21, 67, 76
Punches 17, 59, 63, 98, 108
Purifiers 35
Pyrometers 31, 112

R

Racks 11, 21, 32, 35, 56, 87, 92, 111
Recorders 5, 19, 38, 66
Reels, Cord 72, 106
Reels, Hose 106
Reels, Stock 95
Refrigeration Equipment...90, 95
Relays 39, 52, 62, 63, 77, 92
Reproduction Equipment & Materials 30, 46, 78, 103, 105, 113
Resistors 22
Respirators 8, 87
Rheostats 36
Rings 75
Riveting Equipment ...41, 82, 93
Rod Ends 70
Rollers 30, 64
Rubber Products 70
Rust Preventives 32, 100

S

Safety Equipment 2, 6, 9, 12, 15, 29, 30, 40, 44, 47, 52, 53, 59, 72, 75, 77, 92, 95, 101, 110, 114
Saw Blades.....68, 69, 75, 108
Saw Guides 1, 37
Saws, Metal & Wood 17, 23, 24, 31, 55, 108, 113
Scaffolding 62, 79, 80
Scales 41, 63
Screening Equipment 94
Screens, Projection 62
Screwdrivers 55, 59, 107
Screwdrivers, Power.....64, 72
Screws 11, 16, 22, 23, 29, 42, 80, 84, 103, 114
Seals & Sealants 10, 28, 50, 51, 54, 73, 75, 99, 100, 106, 107, 108
Sharpeners, Saw 22
Shears 18, 46, 104
Shims 38
Shop Equipment 50, 91
Signs 117
Silicones 73
Sleeves 64
Slings & Fittings 45, 52, 59
Snow Removal....40, 71, 103, 116
Soldering Equipment & Materials 52, 80, 96, 112, 120
Solenoids 106
Spacers 42
Speed Reducers 31, 33, 59, 65, 69, 76, 84
Spray Equipment 38, 89, 109
Springs 27
Sprockets 49
Stampings 27, 103, 108
Stapling Equipment 19
Stitchers, Wire 80
Straighteners 112
Strainers 15, 87
Strapping, Steel 18, 100
Strippers 41
Stroboscopes 43
Sweepers, Power....18, 34, 51, 98

T

Tables, Indexing 76
Tables, Rotary 41
Tachometers ...40, 43, 51, 78, 85
Tanks 67
Tanks, Compound Melting ... 16
Tape, Industrial 33, 46, 71, 99, 101, 102, 107, 116
Tapping Attachments & Equipment 26
Testing Equipment 8, 12, 16, 23, 28, 37, 38, 41, 49, 53, 58, 60, 65, 72, 78, 86, 87, 88, 97, 101, 106, 114, 120
Thermometers 37, 89
Timing Devices 39, 50, 52, 56, 62, 66
Tires, Industrial 22, 23, 57
Tools, Cutting 5, 9, 45, 58, 68, 90, 98, 102, 114
Tools, Diamond 38
Tools, Hand 6, 14, 67, 70, 83
Tools, Pneumatic 9, 28, 82, 90, 105, 107
Tools, Portable Electric 9, 17, 22, 28, 58, 120
Tractors, Industrial 42, 106
Trailers, Industrial 75
Traps, Air & Steam 1, 87, 90, 102
Treads, Stair 30
Trolleys 31
Trucks, Hand 6, 24, 36, 64, 89, 103, 110
Trucks, Industrial Power 9, 26, 34, 40, 57, 58, 66, 70, 85, 98, 111
Tubing & Fittings 16, 33, 46, 61, 76, 80, 87, 109, 119

U

Ultrasonic Equipment 11, 19, 40, 43, 46, 98

V

Valve Reseaters 42
Valves.....8, 25, 27, 32, 34, 37, 39, 55, 60, 62, 66, 78, 82, 86, 91, 93, 98, 101, 104, 105
Ventilating Equipment 26, 28
Vibration Absorbers 6, 45, 49, 51, 68, 106, 117
Vibrators 8, 89
Vises 39, 74

W

Wardrobe Equipment 21, 28
Washers 20, 86
Washroom Equipment 14, 85
Water Heaters 34, 101
Water Treatment....4, 60, 69, 91
Way Protectors 64
Welding Equipment 29, 46, 70, 74, 79, 87, 90, 99, 104
Wheels, Industrial 40, 68, 80
Winches 64, 93, 117
Winding Equipment 62, 115
Wire 113
Wire Cloth & Screen..89, 110, 117
Wire Rope & Fittings 45, 51, 79, 83, 85, 109
Wiring Devices 9, 18, 19, 33, 37, 52, 67, 73, 90, 92, 93, 103, 104, 108, 110, 114, 117
Workbenches & Tops 4, 24, 50, 63
Workholders 42
Wrenches 14

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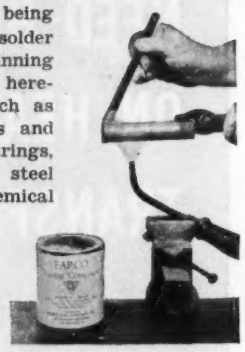

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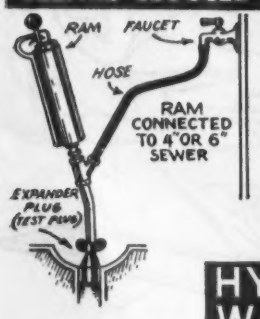

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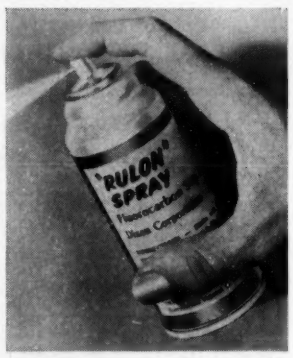

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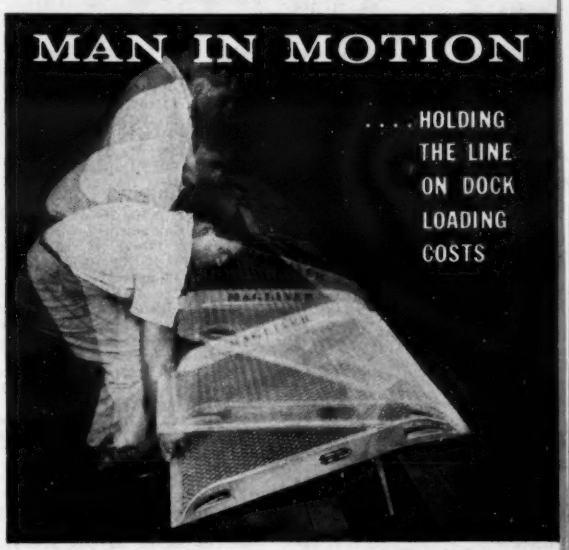

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